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Engineers and
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RTN 3-23246

Partial Permanent Solution Statement for 152 – 154 Glen Street, Somerville, Massachusetts

50 Tufts Street Site, Somerville, Massachusetts

Submitted to:

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Submitted by:

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Table of Contents

Executive Summary	iv
1. Introduction	1
1.1 Purpose	2
1.2 Scope	2
1.3 Submittals	2
1.4 Public Record	2
1.5 Contact Information	3
1.6 Conceptual Site Model	3
1.6.1 Property Location and Description	3
1.6.2 Contaminant Distribution	3
1.6.3 Site Conditions	4
1.6.4 Receptors and Potential Exposure Pathways	4
1.6.5 Ecological Exposure Potential	5
2. Property Investigations	6
2.1 Groundwater Sampling	6
2.1.1 GEI	6
2.1.2 TRC	6
2.2 Soil Sampling	7
2.2.1 GEI	7
2.2.2 TRC	7
2.3 Sub-slab Soil Vapor Sampling	7
2.4 Indoor Air Sampling	8
3. Evaluation of Vapor Intrusion Pathway	9
4. Method 1 Risk Characterization	10
4.1 Current and Reasonably Foreseeable Site Activity and Use	11
4.2 Potential Human Receptors	11
4.3 Potential Environmental Receptors	11
4.4 Summary of Analytical Results	11
4.4.1 Soil	11
4.4.2 Groundwater	12
4.4.3 Hot Spot Evaluation	12
4.5 COPCs	12
4.6 Soil and Groundwater Categories	12
4.6.1 Soil Categories	12
4.6.2 Groundwater Categories	13
4.7 Identification of EPCs	13

4.7.1	Groundwater EPCs	14
4.8	Comparison of EPCs to MCP Standards	14
4.9	Characterization of Risk of Harm to Safety	14
4.10	Conclusions	14
5.	Representativeness Evaluation and Data Usability Assessment	15
5.1	Conceptual Site Model	15
5.2	Field and Screening Data	15
5.3	Sampling Rationale, Distribution, and Data Completeness	15
5.4	Data Usability Assessment	16
5.5	Data Usability Criteria	16
5.6	Statement of Suitability	16
6.	Partial Permanent Solution Statement	17
6.1	Operation, Maintenance, and/or Monitoring	17
7.	Limitations	18

Tables

1. Chemical Testing Results – Groundwater
2. Chemical Testing Results – Soil
3. Chemical Testing Results – Sub-Slab Soil Vapor
4. Chemical Testing Results – Indoor Air
5. Exposure Point Concentrations – Groundwater

Figures

1. Site Location Map
2. 152 – 154 Glen Street– Portion of the Site Subject to Permanent Solution

Appendices

- A. MassDEP Form BWSC-104 “Permanent and Temporary Solution Statement”
- B. Public Notification Documentation
- C. Phase II Environmental Site Assessment Summary Report – TRC, 2014
- D. Groundwater Laboratory Report

Executive Summary

On behalf of UniFirst Corporation (UniFirst) of Wilmington, Massachusetts, GEI Consultants, Inc. (GEI) prepared this Partial Permanent Solution Statement for 152 – 154 Glen Street, Somerville, Massachusetts (the Property), which is a portion of the 50 Tufts Street site (the Site; Fig. 1). The Site is identified by Massachusetts Department of Environmental Protection (MassDEP) Release Tracking Number (RTN) 3-23246. A Site Map that shows the Property in relation to the Site boundary is presented in Fig. 2. This document provides closure for a portion of the Site under the Massachusetts Contingency Plan (MCP; 310 CMR 40.0000) and indicates that a condition of No Significant Risk (NSR) exists at the Property with respect to contaminants associated with the Site.

A release of chlorinated volatile organic compounds (VOCs) to soil and groundwater at the Site was first reported to the MassDEP in 2002. Subsequent investigations at the Site identified chlorinated VOCs, particularly tetrachloroethylene (also called perchloroethylene [PCE]), in indoor air at 50 Tufts Street, and in groundwater and indoor air at residential and commercial properties near 50 Tufts Street.

There is no groundwater monitoring well located at the Property. However, based on the results of years of groundwater sampling conducted Site-wide through November 2023, GEI has estimated the boundaries of the area where chlorinated VOC concentrations in shallow groundwater (including PCE which is the indicator compound of potential concern (COPC) at the Site) exceed the Method 1 GW-2 standard, which was established to be protective of potential groundwater contaminant impacts to indoor air. The Property is located outside the boundaries of that area. GEI also performed a vapor intrusion investigation to confirm whether chlorinated VOCs in groundwater below or near the building on the Property are resulting, or in the foreseeable future may result, in indoor air concentrations posing a significant risk to human health. Based on multiple lines of evidence, including soil vapor sampling under and near the building, as well as indoor air sampling performed at the Property, there is not a complete vapor intrusion pathway under current conditions, nor is there likely to be a complete vapor intrusion pathway in the foreseeable future.

Based on the following lines of evidence, GEI concludes that the vapor intrusion pathway is not complete at the Property:

- Residual or connected phase dense non-aqueous phase liquid (DNAPL) has not been detected at or near the Property.
- Chlorinated VOCs have not been detected above Method 1 GW-2 standards in shallow groundwater samples collected near the Property (MW108 and TRC-4).

- Chlorinated VOCs have not been detected above laboratory reporting limits in soil samples near the Property (MW108 and TRC-4).
- Site-related chlorinated VOCs were not detected above the laboratory reporting limit in indoor air samples collected from the first floor and basement of the Property.
- Site-related chlorinated VOCs were not detected above laboratory reporting limits in the sub-slab soil vapor samples collected at the Property.

A Partial Permanent Solution Statement with No Conditions is appropriate for the Property based on the following:

- No Significant Risk: A condition of NSR to human health, safety, public welfare, and the environment exists for all receptors at the Property, and no remedial actions are required.
- Source Elimination and Control: There are no unpermitted releases of oil or hazardous material (OHM) at the Site, and the sources of OHM at the Site are eliminated to the extent feasible and are controlled.
- Migration Control: The groundwater and soil vapor plumes at the Site are stable.
- NAPL: Visible NAPL has not been observed at the Site, and any DNAPL that may be present is not migrating and exists in a stable configuration. The Phase III for the Site demonstrated that it is not feasible to eliminate DNAPL.
- An Activity and Use Limitation (AUL) is not required to maintain a condition of NSR at the Property.

1. Introduction

On behalf of UniFirst Corporation (UniFirst) of Wilmington, Massachusetts, GEI Consultants, Inc. (GEI) of Woburn, Massachusetts prepared this Partial Permanent Solution Statement for 152 – 154 Glen Street, Somerville, Massachusetts (the Property), which is a portion of the 50 Tufts Street site (the Site; Fig. 1). The Site includes 50 Tufts Street, surrounding residential and commercial properties to the east and immediately west of 50 Tufts Street, and the Michael E. Capuano Early Childhood Center (Capuano Center). A Site Map that shows the Property in relation to the Site boundary is presented in Fig. 2. Chlorinated volatile organic compounds (VOCs), particularly tetrachloroethylene (also called perchloroethylene [PCE]), have been detected in soil, groundwater (shallow and deep overburden, and bedrock), soil vapor, and indoor air at portions of the Site.

This document provides closure for the Property, which is a portion of the Site under the Massachusetts Contingency Plan (MCP; 310 CMR 40.0000) and indicates that a condition of No Significant Risk (NSR)¹ exists at the Property with respect to contaminants associated with 50 Tufts Street Site.

The Site is identified by Massachusetts Department of Environmental Protection (MassDEP) Release Tracking Number (RTN) 3-23246. The Immediate Response Action (IRA) Plan associated with RTN 3-23246 was submitted to MassDEP on January 9, 2006. The Site is currently classified Tier II. The “Phase II Comprehensive Site Assessment, Method 3 Risk Characterization, and Phase III Remedial Action Plan,” (Phase II/III) for the Site was submitted to MassDEP on July 14, 2008. The “Phase IV Remedy Implementation Plan,” (Phase IV) was submitted to MassDEP on August 10, 2009. The “Immediate Response Action Completion Report and Remedial Monitoring Report No. 11,” (IRAC Report) was submitted to MassDEP on November 13, 2009, and the “Immediate Response Action Completion Report Addendum,” was submitted to MassDEP on April 1, 2011. The “Phase IV Final Inspection Report, Remedial Monitoring Report No. 15, and Phase V Remedy Operation Status Report,” was submitted to MassDEP on August 4, 2011. GEI continues to submit semi-annual Phase V Status Reports for the Site. The most recent Status Report was submitted to MassDEP on August 3, 2023.

¹ The MCP defines No Significant Risk as “a level of control of each identified substance of concern at a site or in the surrounding environment such that no such substance of concern shall present a significant risk of harm to health, safety, public welfare or the environment during any foreseeable period of time.”

1.1 Purpose

The purpose of this Partial Permanent Solution Statement, in accordance with the requirements of the MCP, is to document that a Permanent Solution² has been achieved for a portion of the Site.

1.2 Scope

The scope of this Partial Permanent Solution Statement for the Property is to:

- Provide a summary of the environmental conditions.
- Evaluate the risk posed by Site-related contaminants to human health, safety, public welfare, and the environment at the Property.
- Demonstrate that the applicable requirements for a Permanent Solution have been achieved.

1.3 Submittals

The original MassDEP transmittal form (BWSC-104) was submitted online via eDEP and a copy is included in Appendix A. As required by the MCP (310 CMR 40.1403(3)(f)), GEI submitted letters to the Somerville Chief Municipal Officer and the Board of Health notifying them of the availability of this Partial Permanent Solution Statement. Copies of the notification letters are in Appendix B. A copy of this report was provided to the Property owner, the transmittal letter is also in Appendix B.

1.4 Public Record

Documents related to the environmental investigations conducted at the Site are on file with the MassDEP Northeast Regional Office located at 150 Presidential Way in Woburn, Massachusetts. Records are accessible online at the MassDEP Searchable Sites database (<https://eeaonline.eea.state.ma.us/portal#!/search/wastesite>). Additionally, local public document repositories have been established at the Somerville Central Public Library and at the City of Somerville Clerk's Office.

² The MCP defines a Permanent Solution as “a measure or combination of measures which will, when implemented, ensure attainment of a level of control of each identified substance of concern at a disposal site or in the surrounding environment such that no substance of concern will present a significant risk of damage to health, safety, public welfare, or the environment during any foreseeable period of time.”

1.5 Contact Information

Entity Undertaking Response Actions

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1.6 Conceptual Site Model

GEI developed this Conceptual Site Model (CSM) to describe release mechanisms, contaminant distribution, and potential exposure pathways associated with the Property. The CSM is based upon the investigation data documented in the Phase II/III and IRAC Report. Site features associated with the CSM are shown in Fig. 2.

1.6.1 Property Location and Description

The Property is located within the Site boundary associated with a release of chlorinated VOCs to soil and groundwater at 50 Tufts Street, located approximately 350 feet (ft) southwest of the Property. The Property is in a commercial/residential zoning district, and fronts Glen Street to the northwest, the Michael E. Capuano Early Childhood Center to the east, and residential properties to the south. A multi-family residential building is located on the Property.

1.6.2 Contaminant Distribution

From approximately 1955 to approximately 2002, 50 Tufts Street was used for storage and distribution of industrial chemicals, laundry supplies, and dry-cleaning supplies. Chemicals stored at and delivered to and from 50 Tufts Street included chlorinated solvents, also referred to as VOCs.. These chlorinated VOCs – particularly PCE, trichloroethylene (TCE), and 1,1,1-trichloroethane (TCA) – have been detected in soil, soil vapor, indoor air, and groundwater at 50 Tufts Street. A release of chlorinated VOCs to soil and groundwater at the Site was first reported to MassDEP in 2002.

Chlorinated VOCs generally have not been detected above laboratory reporting limits in soils beyond the boundaries of 50 Tufts Street.

Chlorinated VOCs have been detected at the Site in the shallow and deep overburden and bedrock groundwater. There is no groundwater monitoring well located at the Property. However, based on the results of groundwater sampling conducted Site-wide through April 2023, GEI has estimated the boundaries of the area where chlorinated VOC concentrations in shallow groundwater (including PCE which is the indicator compound of potential concern (COPC) at the Site) exceed the Method 1 GW-2 standard (50 micrograms per liter [$\mu\text{g/L}$] for PCE). The Property is located outside the boundaries of that area, and chlorinated VOCs were not detected in groundwater samples collected from the nearest upgradient monitoring well (MW108). Concentrations of chlorinated VOCs in TRC-4, located upgradient/crossgradient, were detected at concentrations above the laboratory reporting limit but below the Method 1 GW-2 standards. As discussed below (Sections 2.3 and 2.4), sub-slab soil vapor sampling and indoor air sampling performed at and near the Property demonstrate that there is not a complete vapor intrusion pathway at the Property.

1.6.3 Site Conditions

As presented in Phase V submittals for the Site, an evaluation based on the results of groundwater sampling conducted Site-wide through November 2023 indicates that the groundwater plumes are stable, overall groundwater concentrations of chlorinated VOCs are not increasing, and natural attenuation processes are occurring at the Site which will likely reduce contaminant concentrations in groundwater over time. Previous investigations have also demonstrated that soil vapor plumes are stable.

Visible NAPL has not been observed at the Site, and any DNAPL that may be present is not migrating and exists in a stable configuration. The Phase III demonstrated that it is not feasible to eliminate DNAPL at the Site. There are no unpermitted releases of oil or hazardous material (OHM) at the Site. Accordingly, all sources of OHM at the Site have been eliminated or controlled to the extent feasible.

1.6.4 Receptors and Potential Exposure Pathways

Due to PCE in groundwater, soil gas and indoor air samples collected across the Site, potential human receptors under current uses are residents (including children) from vapor intrusion into the occupied residential buildings. Potential human receptors under future uses are residents (including children) and construction and utility workers, primarily from direct contact with soil, fugitive dust, and vapor intrusion. Possible trespassers are also potential human receptors during construction activities.

1.6.5 Ecological Exposure Potential

The Property is in an urban area, is fully developed, and would not likely represent a potentially significant terrestrial habitat. Based on the low levels of COPCs in accessible surface soils and the scarcity of open land, the Property does not provide for exposures for potential terrestrial receptors. The closest surface water bodies are the Mystic River, approximately 1 mile northeast of the Property, and the Charles River, approximately 1.7 miles south southeast of the Property. Based on the distance to the nearest aquatic receptors and the current levels of COPCs in groundwater at the Property, the transport of COPCs in groundwater to surface water and sediment is not considered to be a significant exposure pathway.

2. Property Investigations

Since March 2006, GEI has conducted subsurface investigations that included collecting soil, groundwater, soil vapor, and indoor air samples across the Site for laboratory testing. The investigations that are representative of conditions at the Property are summarized below. In February 2014, on behalf of the Somerville Community Corporation (SCC), TRC Environmental Corporation (TRC) of Lowell, Massachusetts prepared an ASTM Phase II Environmental Site Assessment (ESA) for the 163 Glen Street and 31 Tufts Street properties. The TRC Phase II ESA summarizes a January 2014 Limited Site Investigation Report prepared by Lake Shore Environmental (LSE) of Smithfield, Rhode Island. The laboratory reports associated with most of these investigations have been submitted to MassDEP, and are not re-presented in this report. The TRC ASTM Phase II ESA Report is in Appendix C.

2.1 Groundwater Sampling

2.1.1 *GEI*

Although there is no groundwater monitoring well located at the Property, monitoring well MW108 is located approximately 35 ft northwest and upgradient of the Property (Figure 2). Monitoring well MW108 is a shallow overburden well screened between 2 and 12 ft below ground surface (bgs) Due to its proximity to the Property, data obtained from MW108 are considered representative of conditions at the Property. Seven groundwater samples were collected from MW108 between January 2007 and September 2023. The groundwater samples were submitted to Accutest Laboratories (Accutest) of Marlborough, Massachusetts and Alpha Analytical of Westborough, MA for analysis of VOCs by U.S. Environmental Protection Agency (EPA) Method 8260B and EPA Method 8260D, respectively. The laboratory testing results for groundwater samples collected from MW108 are summarized in Table 1. PCE was detected at an estimated concentration (0.6 µg/L) which was below the laboratory reporting limit during one sampling event in October 2007. Chlorinated VOCs were not detected above laboratory reporting limits in groundwater samples collected from monitoring well MW108 including the most recent event in September 2023. The laboratory report for the September 2023 groundwater monitoring event is in Appendix D.

2.1.2 *TRC*

TRC installed groundwater monitoring well (TRC-4) at the 163 Glen Street property approximately 120 west and upgradient/crossgradient of the Property. TRC-4 is a shallow overburden well screened from 10 to 20 ft below ground surface. One groundwater sample was collected from TRC-4 in January 2014 prior to redevelopment of the 163 Glen Street

property. TRC-4 was destroyed during construction. Groundwater samples were submitted to Con-Test Analytical Laboratory (Con-Test) of East Longmeadow, Massachusetts for analysis of VOCs, extractable petroleum hydrocarbons (EPH), polycyclic aromatic hydrocarbons (PAHs), and metals. Only chlorinated VOCs are COPCs for the Site. PCE was detected at a concentration of 32 µ/L, TCE was detected at a concentration of 3.8 µ/L, 1,1-dichloroethylene (1,1-DCE) at a concentration of 24 µ/L, and TCA was detected at a concentration of 8.1 µ/L. The concentrations of these contaminants are below the MCP Method 1 GW-2 standards. The laboratory testing results for groundwater samples are summarized in Table 1.

2.2 Soil Sampling

2.2.1 GEI

Prior to the installation of monitoring well MW108, two shallow soil samples (B108-VAC-GRAB and B108-VAC-COMP) were collected from 3 ft and 2 -4 ft bgs, respectively, and one subsurface soil sample (B108 (7-8')) was collected from 7 to 8 ft bgs.. GEI submitted two of these samples (B108-VAC-GRAB [3'] and B108(7-8')) to Accutest for VOC analysis by EPA Method 8260B. Chlorinated VOCs were not detected above laboratory reporting limits in these two samples. The laboratory testing results for these soil samples are summarized in Table 2.

2.2.2 TRC

During the installation of monitoring well TRC-4 located approximately 120 ft west of the Property, TRC collected one grab sample (TRC-4 0-8/8) at a depth of 8 ft bgs. TRC submitted this sample to Contest for VOC analysis by EPA Method 8260C. Chlorinated VOCs were not detected above the laboratory reporting limit in the sample. The laboratory testing results for these soil samples are summarized in Table 2.

2.3 Sub-slab Soil Vapor Sampling

GEI collected one sub-slab soil vapor sample (154 GLEN-SS1) from the Property in February 2007. GEI submitted the samples to Accutest for VOC analysis by EPA Method TO-15 for the following analytes:

- | | |
|--------------------------------|-------------------------------|
| ▪ Carbon tetrachloride | ▪ 1,1,2,2-Tetrachloroethane |
| ▪ Chloroethane | ▪ Tetrachloroethylene (PCE) |
| ▪ 1,1-Dichloroethane | ▪ 1,1,1-Trichloroethane (TCA) |
| ▪ 1,2-Dichloroethane (1,2-DCA) | ▪ 1,1,2-Trichloroethane |
| ▪ 1,1-Dichloroethylene | ▪ Trichloroethylene (TCE) |
| ▪ cis-1,2-Dichloroethylene | ▪ Vinyl Chloride |
| ▪ trans-1,2-Dichloroethylene | |

No site-related chlorinated VOCs were detected above the laboratory reporting limit in the sub-slab soil vapor sample collected from the Property (154 GLEN-SS1). PCE was detected at an estimated concentration (0.88 µg/m³) that is below the laboratory reporting limit and well below the screening value of 98 ug/m³ established by MassDEP. These sampling results indicate that the vapor intrusion pathway is unlikely to be of concern under current conditions. The laboratory testing results are summarized in Table 3.

2.4 Indoor Air Sampling

GEI performed three rounds of indoor air sampling at the Property in November 2007, February 2008, and June 2008. Indoor air samples were collected from the basement and first floor during each sampling event. GEI submitted the samples to Accutest for VOC analysis by EPA Method TO-15. The laboratory testing results are summarized in Table 4.

Site-related VOCs were not detected above laboratory reporting limits during these sampling events. 1,2-DCA was detected during certain sampling rounds in the basement and first floor at a maximum concentration of 4.5 µg/m³; however, 1,2-DCA is not related to the Site. Accordingly, there is not a complete vapor intrusion pathway at the Property.

3. Evaluation of Vapor Intrusion Pathway

All pertinent data were reviewed and considered to evaluate the potential for a complete vapor intrusion pathway on the Property. Based on the following lines of evidence, the vapor intrusion pathway is not complete for the chlorinated VOCs associated with the 50 Tufts Street disposal site, and there is unlikely to be a complete vapor intrusion pathway for these contaminants at the Property in the future:

- Residual or connected phase DNAPL has not been detected at or near the Property, and DNAPL detected elsewhere on the Site is in a stable configuration and is not migrating.
- Chlorinated VOCs have not been detected above Method 1 GW-2 standards in shallow groundwater samples collected near the Property (MW108 and TRC-4).
- Chlorinated VOCs have not been detected above laboratory reporting limits in soil samples collected near the Property (MW108 and TRC-4).
- Site-related chlorinated VOCs were not detected in indoor air samples collected from the first floor and basement of the Property above the laboratory reporting limit.
- Site-related chlorinated VOCs were not detected above the laboratory reporting limit in the sub-slab soil vapor samples collected at the Property.

4. Method 1 Risk Characterization

Five Site-wide Method 3 Risk Characterization Reports were previously prepared for the Site. The July 2008 Phase II/Phase III included a Method 3 Risk Characterization for the Site, prepared by AMEC Earth & Environmental (AMEC) of Westford, Massachusetts. In response to MassDEP comments, AMEC prepared a Supplemental Method 3 Risk Characterization (Supplemental Risk Characterization) in May 2009. The Supplemental Risk Characterization evaluated potential risks using the framework in the July 2008 Method 3 Risk Characterization, including an indoor air Exposure Assessment for each residence located within the Site without an effective Exposure Pathway Mitigation Measure (EPM). A Revised Supplemental Risk Characterization was prepared to support the IRAC Report in November 2009. Potential risks presented in the Supplemental Risk Characterization were updated in the Revised Supplemental Risk Characterization to reflect additional data collection and additional EPMs installed by GEI. An Updated Revised Supplemental Risk Characterization was prepared in April 2011 to respond to a MassDEP Notice of Audit Findings and Notice of Noncompliance for the IRAC Report. An Updated Method 3 Risk Characterization was prepared by ARCADIS U.S., Inc. of Chelmsford, Massachusetts in August 2015 to incorporate updated MassDEP toxicity information for PCE and TCE.

Based on all lines of evidence, there is not a complete vapor intrusion pathway at the Property. Accordingly, a Method 1 Risk Characterization was completed for the Property (152 – 154 Glen Street Risk Characterization) in accordance with 310 CMR 40.0900 to support this Partial Permanent Solution Statement. A Method 1 Risk Characterization evaluates foreseeable Site uses, potential receptors, COPCs, and exposure point concentrations (EPCs), and compares EPCs detected in soil and groundwater to MassDEP-derived standards. If the EPCs in soil and groundwater are less than the applicable Method 1 standards then a condition of NSR of harm to human health, public welfare, and the environment exists. In accordance with 310 CMR 40.0971(5), a separate characterization of the risk of harm to safety was also conducted.

A Method 1 Risk Characterization was appropriate for the Property because: 1) COPCs have not been detected above laboratory reporting limits at or near the Property at significant concentrations in media other than soil and groundwater; 2) MCP standards exist for the COPCs detected at or near the Property; and 3) compounds considered by MassDEP to bioaccumulate are not present within 2 ft of the ground surface.

4.1 Current and Reasonably Foreseeable Site Activity and Use

Consistent with the requirements of the MCP (310 CMR 40.0923), the 152 – 154 Glen Street Risk Characterization considered both current and future uses of the Property. The current use of the Property is as a residence, and the reasonably conservative foreseeable use of the Property is also residential.

4.2 Potential Human Receptors

Potential human receptors were identified based on current and foreseeable uses of the Property. Current use receptors at the Property are residents. Future use receptors of the Property are future residents and construction workers during potential future excavation/development activities.

4.3 Potential Environmental Receptors

The Property is in an urban area, is fully developed, and would not likely represent a potentially significant terrestrial habitat. Based on the low levels of COPCs and the scarcity of open land, the Property does not provide for exposures for potential terrestrial receptors.

The closest surface water bodies are the Mystic River, located approximately 1 mile northeast of the Property, and the Charles River located approximately 1.7 miles south-southeast of the Property. Based on the distance to the nearest aquatic receptors and the current levels of COPCs in groundwater, the transport of COPCs in groundwater to surface water and sediment is not considered to be a significant exposure pathway.

4.4 Summary of Analytical Results

The environmental conditions at the Property have been characterized based on data collected in the immediate vicinity of the Property, as described in Section 2.

4.4.1 Soil

Chlorinated VOCs generally have not been detected in soils beyond the boundaries of the 50 Tufts Street property and were not detected above laboratory reporting limits in the soil samples collected near the Property (MW108 and TRC-4) (Table 2). Consequently, soil at the Property is not considered to be impacted by Site COPCs and is not evaluated further in this risk characterization.

4.4.2 Groundwater

We reviewed and evaluated groundwater data for use in the Method 1 Risk Characterization to identify potential exposure points and derive EPCs based on the relevant groundwater categories identified for the Property. Groundwater data included in the Method 1 Risk Characterization are from monitoring well MW108 located approximately 35 ft northwest of the Property and monitoring well TRC-4 located approximately 120 ft west of the Property and are in Table 1.

4.4.3 Hot Spot Evaluation

Under the MCP (310 CMR 40.0924), hot spots must be considered as distinct exposure points. A hot spot is defined as a discrete area where the concentrations of OHM are substantially higher than those concentrations in the surrounding area. No “hot spots” have been identified at the Property.

4.5 COPCs

The COPCs related to the Site have been limited to certain chlorinated solvents, together with their associated breakdown products.

No site-specific chlorinated VOCs were detected above laboratory reporting limits in groundwater samples collected from monitoring well MW108. PCE was detected at an estimated concentration (0.6 µg/L) below the laboratory reporting limit during one sampling event in October 2007. PCE (32 µ/L), TCE (3.8 µ/L), 1,1-DCE (24 µ/L), and TCA (8.1 µ/L) were detected above the laboratory reporting limit in the TRC-4 sample collect in January 2014.

4.6 Soil and Groundwater Categories

This section identifies and documents the applicable soil and groundwater categories, as described in the MCP (310 CMR 40.0930). The soil and groundwater categories are considered general indicators of the potential for exposure to OHM.

4.6.1 Soil Categories

Under the MCP, soil can be classified into one of three categories (S-1, S-2, or S-3). Category S-1 soil represents the highest potential exposure because it assumes unrestricted use of the soil (i.e., residential), whereas category S-3 soil represents the lowest potential for exposure. Residents currently present at the Property are considered to have high frequency and high intensity contact with soil located outside of the building footprint. Soil beneath the building is considered to be isolated. Therefore, soil located from 0 to 15 ft bgs outside the

building footprint is categorized as S-1, and soil located beyond 15 ft deep or beneath the building footprint is categorized as S-3.

For purposes of this risk characterization, all soil from 0 to 15 ft bgs at the Property is characterized as S-1. However, soil at the Property is not considered to be impacted by Site COPCs and was not evaluated further in this risk characterization.

4.6.2 Groundwater Categories

The MCP identifies three groundwater categories which correspond to the following three distinct types of exposures:

- **Groundwater Category GW-1** applies to groundwater assumed to be a current or future source of drinking water.
- **Groundwater Category GW-2** applies to groundwater considered to be a potential source of vapors that could migrate through the soil and concentrate in indoor air of existing, occupied buildings. GW-2 is defined as groundwater located within 30 ft of an existing or planned building or structure that is or will be occupied, and the average annual depth to groundwater in that area is 15 ft or less.
- **Groundwater Category GW-3** applies to groundwater that is assumed to discharge to surface water. All groundwater in the Commonwealth is classified as GW-3.

Because the exposures are not necessarily related to each other, they are not mutually exclusive. Therefore, more than one category may be applicable to a site and/or different areas of a site.

Groundwater beneath the Property is not located within a current or potential drinking water source area.

There is an occupied building at the Property, and the depth to groundwater is unknown; however, the depth to groundwater in MW108 (located approximately 35 ft northwest of the Property) ranges between 2 to 10 ft bgs. The depth to groundwater in TRC-4, located about 120 ft west of the Property, was observed at 6.80 ft bgs. Therefore, we have considered depth to groundwater at the Property to be less than 15 ft bgs. Based on this information, the applicable groundwater categories for the Property are GW-2 and GW-3.

4.7 Identification of EPCs

The MCP requires that the estimation of EPCs be representative of actual and foreseeable exposures.

4.7.1 Groundwater EPCs

For a Method 1 Risk Characterization, and in accordance with 310 CMR 40.0924, “the groundwater EPC shall be the groundwater resource itself, as measured at each wellhead...” No site-specific chlorinated VOCs were detected above laboratory reporting limits in groundwater samples collected from monitoring well MW108. Due to its proximity to the Property, and the most recent sampling event, data obtained from MW108 are considered representative of conditions at the Property. However, PCE, TCE, 1,1,1-TCA and 1,1-DCE was detected at a concentration of 32 µ/L, 3.8 µ/L, 8.1 µ/L, and 24 µ/L, respectively, in TRC-4 from January 2014. As a conservative measure, the maximum groundwater concentration was identified as the groundwater EPC (Table 5). The location of groundwater monitoring wells MW108 and TRC-4 are shown in Fig. 2.

4.8 Comparison of EPCs to MCP Standards

A condition of NSR of harm to health, public welfare, and the environment exists if the EPCs are less than the lowest applicable MCP soil or groundwater standard.

For groundwater, the EPC was identified and compared to applicable Method 1 GW-2 and GW-3 groundwater standards (Table 5). The results of this comparison show that the groundwater EPC is below the applicable Method 1 standard. Therefore, a condition of NSR of harm to health, public welfare and the environment exists at the Property.

4.9 Characterization of Risk of Harm to Safety

In accordance with the MCP (310 CMR 40.0971(5)), a separate characterization of risk of harm to safety was also conducted in accordance with 310 CMR 40.0960. There are no rusted or corroded drums or containers, open pits, lagoons, or other dangerous structures at the Property; there is no threat of fire or explosion at the Property; and there are no uncontained materials which exhibit the characteristics of corrosivity, reactivity, or flammability at the Property. Therefore, a condition of NSR of harm to safety exists at the Property.

4.10 Conclusions

The Method 1 Risk Characterization for the Property concluded:

- A condition of NSR to health, safety, public welfare, and the environment exists for all receptors.
- No remedial actions are required.
- An Activity and Use Limitation (AUL) is not required to maintain a condition of NSR.

Therefore, no further action is required at the Property.

5. Representativeness Evaluation and Data Usability Assessment

The purpose of a Representativeness Evaluation and Data Usability Assessment (REDUA) is to evaluate the extent to which a data set meets specific site characterization and data usability objectives. The data on which this Partial Permanent Solution Statement relies were evaluated under the REDUA presented in the Phase II/III, which was submitted in July 2008. However, additional groundwater samples have been collected since the Phase II/III, and the analytical results for some of those samples are included in the data set for this Partial Permanent Solution Statement. A REDUA for these additional data is presented below. The REDUA was performed in general accordance with MassDEP Policy #WSC-07-350, “MCP Representativeness Evaluations and Data Usability Assessments,” dated September 19, 2007.

5.1 Conceptual Site Model

The CSM is presented in Section 1.6.

5.2 Field and Screening Data

Field data include physical parameter measurements made during soil, groundwater, sub-slab vapor, and indoor air sampling (e.g., total VOCs measured with a photoionization detector (PID), pH, temperature, conductivity, dissolved oxygen, etc.). Field and screening data were reviewed with the associated laboratory testing reports as part of the data quality assessment.

5.3 Sampling Rationale, Distribution, and Data Completeness

Environmental samples were submitted for chlorinated VOC testing consistent with the Site history and types of chemicals stored and used at the 50 Tufts Street property. To characterize the groundwater at the Property, GEI relied on groundwater monitoring well MW108, located approximately 35 ft northwest of the Property and the former monitoring well TRC-4 located approximately 120 ft west of the Property. Over an approximately 2-year period, six groundwater samples were collected from MW108. One groundwater sample was collected from TRC-4 in January 2014 as part of due diligence for a real estate transaction.

One sub-slab soil vapor sample was collected from the Property in February 2007. Three rounds of indoor air sampling were performed at the Property in November 2007, February 2008, and June 2008. Indoor air samples were collected from the basement and first floor during each sampling event.

No data associated with conditions at the Property were rejected for quality assurance/quality control reasons. Data gaps related to sample distribution or data quality were not identified. Therefore, the data set is considered 100% complete. Inconsistent data were not identified. Field screening results, and observations such as visual and olfactory observations, were consistent with laboratory testing results. There is little uncertainty associated with the data used to support this Partial Permanent Solution Statement given the number of samples collected and the locations at which they were collected. All data collected were considered representative.

5.4 Data Usability Assessment

Laboratory testing data used to support this Partial Permanent Solution Statement were generated pursuant to the MassDEP Compendium of Analytical Methods (CAM) and 310 CMR 40.1056 and meet the criteria for “Presumptive Certainty” as identified in the MassDEP Document “WSC No. 10-320: Compendium of Quality Control Requirements and Performance Standards for Selected Analytical Protocols,” dated July 1, 2010. These data also are consistent with GEI’s field observations, are representative of conditions that exist or existed at the Property and are of a level of precision and accuracy commensurate with the preparation of this Partial Permanent Solution Statement.

5.5 Data Usability Criteria

The Precision Accuracy Representativeness Completeness Comparability and Sensitivity (PARCCS) parameters of the data were evaluated as part of field procedures, laboratories’ analytical protocols, and GEI’s in-house data review and validation process. Based on the REDUA presented in the Phase II/III, which was submitted in July 2008, the analytical results for soil, groundwater, soil vapor, and indoor air were considered sufficiently representative of conditions in those media, and were relied upon to support this Partial Permanent Solution Statement. The following groundwater and soil data for TRC-4 (for COPCs) were obtained since the Phase II/II were qualified by the laboratory:

- GEI reviewed the analytical reports for samples collected by TRC and did not identify any qualifiers for Site COPCs.

5.6 Statement of Suitability

In summary, the data set relied upon in this Partial Permanent Solution Statement to characterize the conditions at the Property and perform a risk characterization is scientifically valid and defensible. It is of sufficient accuracy, precision, and completeness. In addition, the data set is representative of the spatial and temporal distribution of sampling points.

6. Partial Permanent Solution Statement

Based on the results of the Phase II/III prepared for the Site, and the 152 – 154 Glen Street Risk Characterization, it is the LSP's opinion that a Partial Permanent Solution Statement is appropriate for the Property because:

- **No Significant Risk:** A condition of NSR to human health, safety, public welfare, and the environment exists for all receptors with No Conditions at the Property, and no remedial actions are required.
- **Source Elimination and Control:** There are no unpermitted releases of OHM at the Site, and the sources of OHM at the Site are eliminated to the extent feasible and are controlled.
- **Migration Control:** The groundwater and soil vapor plumes at the Site are stable.
- **NAPL:** Visible NAPL has not been observed at the Site, and any DNAPL that may be present is not migrating and exists in a stable configuration. The Phase III for the Site demonstrated that it is not feasible to eliminate DNAPL.
- An AUL is not required to maintain a condition of NSR at the Property.

This Partial Permanent Solution only applies to the Property, which is a portion of the disposal site, as shown on Fig. 2.

6.1 Operation, Maintenance, and/or Monitoring

No operation, maintenance, and/or monitoring are required at the Property.

7. Limitations

The conclusions provided by GEI in this report are based solely on the information reported in this document. Additional information which was not available to GEI may result in a modification of the conclusions stated above. This report has been prepared in accordance with generally accepted hydrogeological practices. If a MassDEP audit is conducted, it is the responsibility of UniFirst Corporation, and not GEI, to respond to the MassDEP Notice of Audit Findings. No warranty, express or implied, is made.

RTN 3-23246
Partial Permanent Solution Statement
for 152 – 154 Glen Street, Somerville, Massachusetts
50 Tufts Street Site, Somerville, Massachusetts
UniFirst Corporation
December 1, 2023

Tables

Table 1. Chemical Testing Results - Groundwater
Partial Permanent Solution Statement
152 - 154 Glen Street
Somerville, Massachusetts

Sample Location: Sample Name: Well Screen Interval (ft bgs): Sample Date: Collected By:					MW108							TRC-4
					MW108	MW108	MW108	MW108	MW108	MW108	MW108	TRC-4
					2 to 12	2 to 12	2 to 12	2 to 12	2 to 12	2 to 12	2 to 12	10-20
					1/18/07	4/16/07	7/18/07	10/10/07	1/10/08	4/17/08	9/15/23	1/21/14
					GEI	GEI	GEI	GEI	GEI	GEI	GEI	TRC
Analyte	Method	Units	MCP Method 1 GW-2	MCP Method 1 GW-3								
Volatile Organic Compounds (VOCs)	8260	µg/l										
1,1-Dichloroethylene			80	30000	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	24
Tetrachloroethylene (PCE)			50	30000	< 1.0 F-	< 1.0	< 1.0	0.60 J	< 1.0	< 1.0	< 1.0	32
1,1,1-Trichloroethane (TCA)			4000	20000	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	8.1
Trichloroethylene (TCE)			5	5000	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	3.8

General Notes:

1. Analytes detected in at least one sample are reported here. For a complete, list of analytes refer to the laboratory data reports.
2. ft bgs = feet below ground surface.
3. µg/l = micrograms per liter.
4. "<" = The analyte was not detected at a concentration above the specified reporting limit.
5. NT = Not Tested.

Qualifying Notes:

- F- The result has a low bias due to matrix spike recovery below lower control limits.
- J The reported result is below the laboratory reporting limit and is estimated.

Table 2. Chemical Testing Results - Soil
Partial Permanent Solution Statement
152 - 154 Glen Street
Somerville, Massachusetts

Location Name: Sample Name: Sample Depth (ft): Sample Date:			MW108 B108 (7-8') 7 to 8 1/5/07	MW108 B108-VAC-COMP 2 to 4 1/3/07	MW108 B108-VAC-GRAB 3 1/3/07	TRC-4 TRC-4 8 1/20/14
Analyte	Method	Units				
Volatile Organic Compounds (VOCs)						
Benzene	8260	mg/kg	< 0.028	NT	< 0.021	<0.0016
Butanone,2- (MEK)			< 0.28	NT	< 0.21	<0.032
Dichloroethane,1,1-			< 0.11	NT	< 0.084	<0.0016
Dichloroethene, cis-1,2-			< 0.11	NT	< 0.084	<0.0016
Ethylbenzene			< 0.11	NT	< 0.084	<0.0016
Methyl-2-pentanone,4- (MIBK)			< 0.28	NT	< 0.21	<0.016
Methylene chloride			< 0.11	NT	< 0.084	<0.0079
Naphthalene			< 0.28	NT	< 0.21	<0.0079
Tetrachloroethene (PCE)			< 0.11	NT	< 0.084	<0.0016
Toluene			< 0.28	NT	< 0.21	<0.0016
Trichloroethane,1,1,1-			< 0.11	NT	< 0.084	<0.0016
Trichloroethene (TCE)			< 0.11	NT	< 0.084	<0.0016
Xylene, m,p-			< 0.11	NT	< 0.084	<0.0032
Xylene, o-			< 0.11	NT	< 0.084	<0.0016
Total Xylenes			< 0.11	NT	< 0.084	<0.0032
Other						
Solids, Percent	1603M	%	76.5	86.7	86.7	76
Specific Conductivity	E120.1	µmhos/cm	900	109	NT	NT
Total Organic Carbon	9060	mg/kg	6650	4430	NT	NT
pH	9045	s.u.	7	6.8	NT	NT

General Notes:

1. Generally, only analytes detected in at least one sample are reported here.
For a complete list of analytes see the laboratory data sheets.
2. "<" = The analyte was not detected at a concentration above the specified reporting limit.
3. mg/kg = milligrams per kilogram.
4. µmhos/cm = micro-ohms per centimeter.
5. s.u. = standard units.
6. NT = Not Tested

Table 3. Chemical Testing Results - Sub-slab Soil Vapor
Partial Permanent Solution Statement
152 - 154 Glen Street
Somerville, Massachusetts

			Sample Location:		152-154 Glen Street	
			Sample Name:		154 GLEN-SS1	
			Sample Date:		2/28/2007	
			Units:		$\mu\text{g}/\text{m}^3$	ppbv
Analyte	Method	Residential Sub-Slab Soil Gas Screening Values ($\mu\text{g}/\text{m}^3$)				
Volatile Organic Compounds (VOCs)	TO-15					
Tetrachloroethylene (PCE)		98		0.88 J	0.13 J	
1,1,1-Trichloroethane (TCA)		210		0.65 J	0.12 J	

General Notes:

1. Analytes detected in at least one sample are reported here. For a complete list of analytes see the attached laboratory data sheets.
2. $\mu\text{g}/\text{m}^3$ = micrograms per cubic meter.
3. ppbv = parts per billion by volume.
4. Residential Sub-Slab Soil Gas Screening Values taken from the Massachusetts Department of Environmental Protection (MassDEP) "Vapor Intrusion Guidance: Site Assessment, Mitigation and Closure" dated October 2016.

Qualifying Note:

- J The reported result is below the laboratory reporting limit and is estimated.

Table 4. Chemical Testing Results - Indoor Air
Partial Permanent Solution Statement
152 - 154 Glen Street
Somerville, Massachusetts

Sample Location: Sample Name: Sample Date: Units:			152-154 Glen Street											
			152GLEN-1 11/1/07		152GLEN-B 11/1/07		152-154GLEN-1 2/11/08		152-154GLEN-B 2/11/08		152-154 GLEN-1 6/10/08		152-154 GLEN-B 6/10/08	
			µg/m ³	ppbv	µg/m ³	ppbv	µg/m ³	ppbv	µg/m ³	ppbv	µg/m ³	ppbv	µg/m ³	ppbv
Analyte	Method	MassDEP Residential Indoor Air Threshold Values (µg/m ³)												
Volatile Organic Compounds (VOCs)	TO-15													
Carbon tetrachloride		0.54	0.63 J	0.10 J	< 1.3	< 0.20	< 1.3	< 0.20	< 1.3	< 0.20	0.58 J	0.092 J	0.60 J	0.095 J
1,2-Dichloroethane		0.09	2.8	0.69	< 0.81	< 0.20	1.3	0.32	< 0.81	< 0.20	4.5	1.1	1.0	0.25
Tetrachloroethylene (PCE)		1.4	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	0.88 J	0.13 J	1.2 J	0.17 J

General Notes:

1. Analytes detected in at least one sample are reported here. For a complete list of analytes see the attached laboratory data sheets.
2. µg/m³ = micrograms per cubic meter.
3. ppbv = parts per billion by volume.
4. "<" = The analyte was not detected at a concentration above the specified laboratory reporting limit.

Qualifying Note:

- J The reported result is below the laboratory reporting limit and is estimated.

Table 5. Exposure Point Concentrations - Groundwater
Partial Permanent Solution Statement
152 - 154 Glen Street
Somerville, Massachusetts

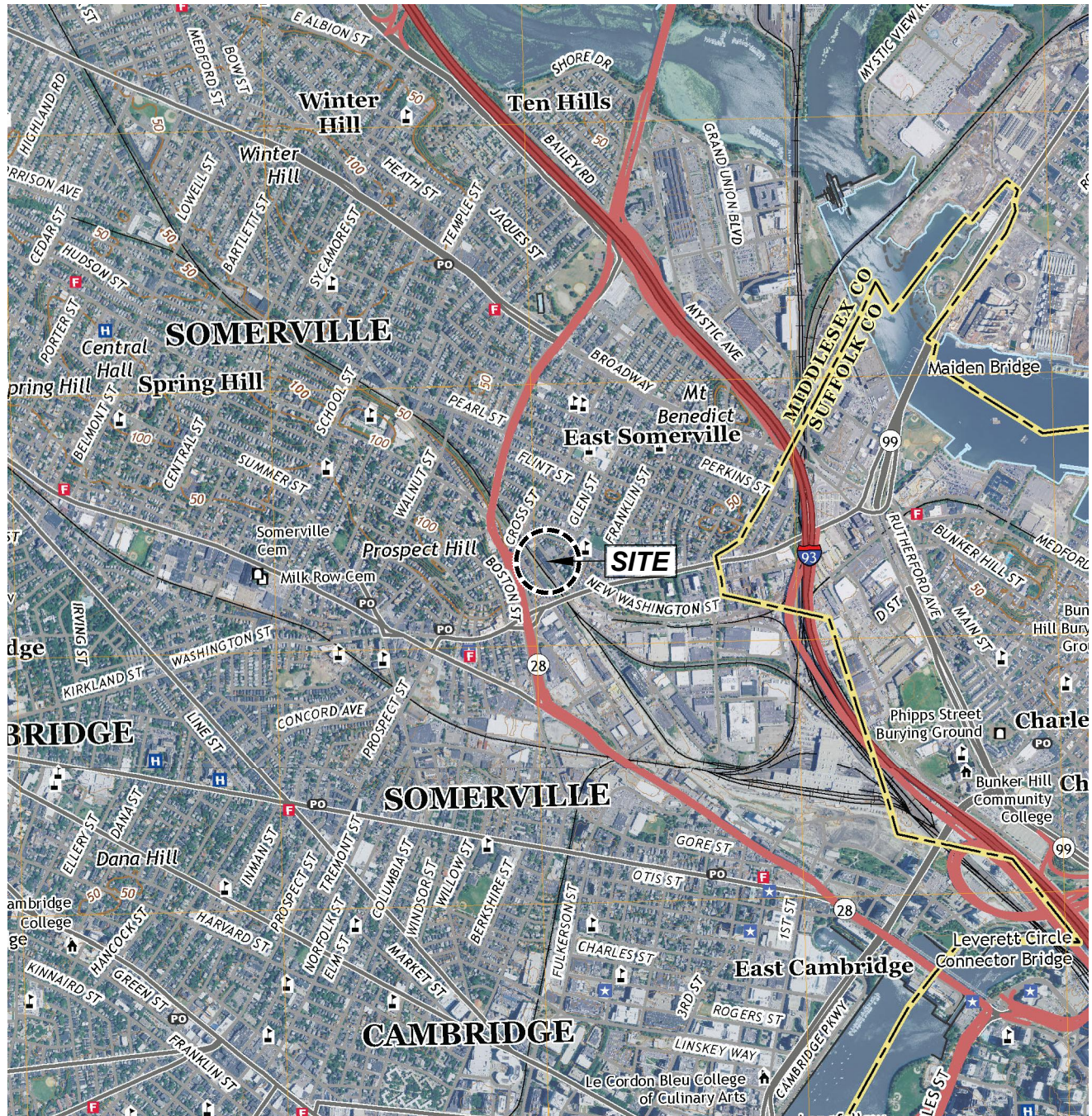
Sample Location:					MW108	TRC-4
Well Screen Interval (ft bgs):					2 to 12	10 to 20
Analyte	Method	Units	Method 1 Standards			
			GW-2	GW-3		
Volatile Organic Compounds (VOCs)	8260B	µg/l				
1,1-Dichloroethylene			80	30,000	<1.0	24
Tetrachloroethylene (PCE)			50	30,000	<1.0	32
1,1,1-Trichloroethane (TCA)			4000	20,000	<1.0	8.1
Trichloroethylene (TCE)			5	5,000	<1.0	3.8

General Notes:

1. Analytes detected in at least one sample are reported here. For a complete list of analytes refer to the laboratory data reports.
2. ft bgs = feet below ground surface.
3. µg/l = micrograms per liter.
4. "<" = The analyte was not detected at a concentration above the specified reporting limit.
5. The exposure point concentrations are the maximum VOC concentrations of Compounds of Potential Concern (COPCs) detected at each monitoring well.
6. Based on the depth from which the groundwater samples were collected from MW108 and TRC-4, the applicable Method 1 Standards for comparison are the GW-2 and GW-3 Standards.

RTN 3-23246
Partial Permanent Solution Statement
for 152 – 154 Glen Street, Somerville, Massachusetts
50 Tufts Street Site, Somerville, Massachusetts
UniFirst Corporation
December 1, 2023

Figures



0 1000 2000 4000 6000
SCALE, FEET

This Image is from U.S.G.S. Topographic 7.5 Minute Series
Boston North, MA Quadrangle, 2018.
Datum is North American Vertical Datum of 1988 (NAVD88).
Contour Interval is 10 Feet.



Partial Permanent Solution Statement
50 Tufts Street
Somerville, Massachusetts

UniFirst Corporation
Wilmington, Massachusetts

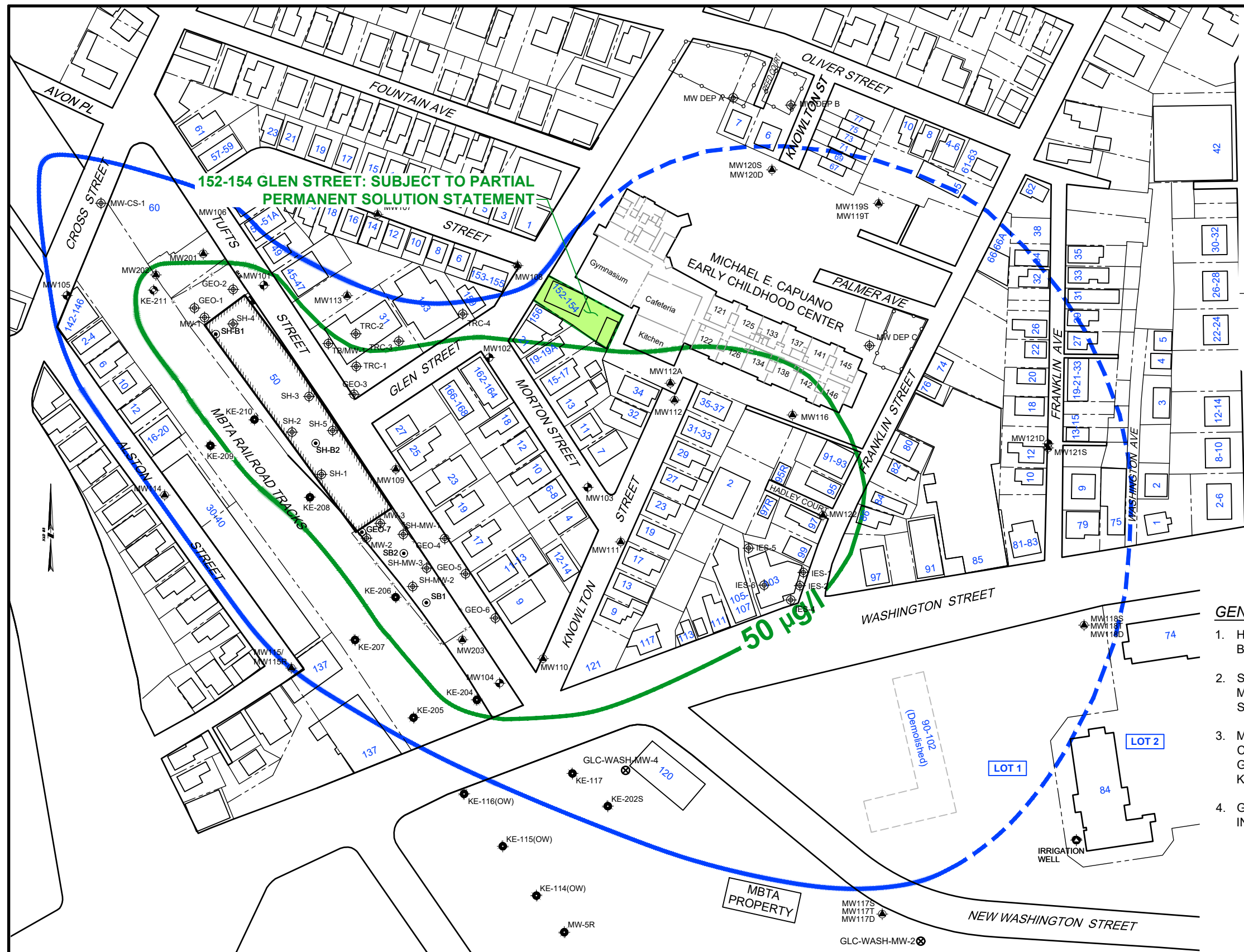


Project 045163

SITE LOCATION MAP

December 2023

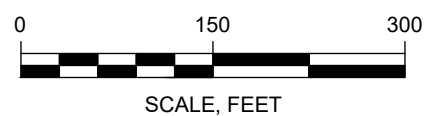
Fig. 1



LEGEND:

- ⊕ MONITORING WELL INSTALLED BY TRC, 2014
- ⊙ BORING BY KLEINFELDER, MARCH 2014 AND APRIL 2014
- ⊙ MONITORING WELL BY KLEINFELDER, SEPTEMBER 2012, MARCH 2014, AND APRIL 2014
- ⊙ MONITORING WELL WITH SOIL VAPOR SAMPLE PORT INSTALLED BY GEI, JANUARY 2007 - JANUARY 2008
- ⊙ MONITORING WELL INSTALLED BY GEI, MAY 2006
- ⊙ PREVIOUSLY INSTALLED IRRIGATION WELL
- ⊗ GLXC WELL INSTALLED AUGUST 2020
- CHAIN LINK FENCE
- 138 ROOM NUMBER AT CAPUANO SCHOOL
- BOUNDARY OF COMMUNITY GARDENS
- 84 STREET ADDRESS
- MBTA = MASSACHUSETTS BAY TRANSPORTATION AUTHORITY
- DISPOSAL SITE BOUNDARY (DASHED WHERE INFERRED)
- EXTENT OF PCE CONCENTRATION IN SHALLOW GROUNDWATER GREATER THAN OR EQUAL TO 50 µg/l
- µg/l = MICROGRAMS PER LITER
- PORTION OF SITE SUBJECT TO THE PERMANENT SOLUTION WITHOUT CONDITIONS

- GENERAL NOTES:**
- HORIZONTAL CONTROL FOR THIS PLAN WAS ESTABLISHED BY GPS AND IS BASED ON THE NORTH AMERICAN DATUM OF 1983.
 - STREET AND PROPERTY LINES BASED ON SOMERVILLE ASSESSORS' MAPS AND ARE BEST FIT RELATIVE TO THE LOCATION OF THE 50 TUFTS ST. BUILDING.
 - MONITORING WELL LOCATIONS AND ELEVATIONS, AND CAPUANO CENTER COMMUNITY GARDEN LOCATIONS WERE ESTABLISHED BY ON THE GROUND SURVEYS BY BSC GROUP, INC. OR INFORMATION PROVIDED BY KLEINFELDER
 - GEI OBSERVED DECOMMISSIONING OF SH-MW1 AND SH-1 THROUGH SH-5 IN 2007.



Partial Permanent Solution Statement 50 Tufts Street Somerville, Massachusetts UniFirst Corporation Wilmington, Massachusetts		152-154 GLEN STREET PORTION OF DISPOSAL SITE SUBJECT TO PARTIAL PERMANENT SOLUTION STATEMENT	
		Project 045163	December 2023

RTN 3-23246
Partial Permanent Solution Statement
for 152 – 154 Glen Street, Somerville, Massachusetts
50 Tufts Street Site, Somerville, Massachusetts
UniFirst Corporation
December 1, 2023

Appendix A

Copy of MassDEP Form (BWSC-104) “Permanent and Temporary Solution Statement”



PERMANENT AND TEMPORARY SOLUTION STATEMENT

Pursuant to 310 CMR 40.1000 (Subpart J)

Release Tracking Number

3 - 23246

For sites with multiple RTNs, enter the Primary RTN above.

A. SITE LOCATION:

1. Site Name/Location Aid: 50 TUFTS ST & PROP ACROSS THE ST
2. Street Address: 50 TUFTS ST
3. City/Town: SOMERVILLE 4. ZIP Code: 021454129
5. Coordinates: a. Latitude: N 42.38234 b. Longitude: W 71.08880
- ☒ 6. Check here if the disposal site that is the source of the release is Tier Classified. Check the current Tier Classification Category:
- ☐ a. Tier I ☐ b. Tier ID ☒ c. Tier II

B. THIS FORM IS BEING USED TO: (check all that apply)

1. List Submittal Date of the Permanent or Temporary Solution Statement, or RAO Statement (if previously submitted): _____ mm/dd/yyyy
- ☐ 2. Submit a **Permanent or Temporary Solution Statement**
- ☐ a. Check here if this Permanent or Temporary Solution Statement covers additional Release Tracking Numbers (RTNs). RTNs that have been previously linked to a Tier Classified Primary RTN do not need to be listed here.
- b. Provide the additional Release Tracking Number(s) covered by this Permanent or Temporary Solution Statement. - -
- ☐ 3. Submit a **Revised Permanent or Temporary Solution Statement** (or revised RAO Statement)
- ☐ a. Check here if this Revised Permanent or Temporary Solution Statement covers additional Release Tracking Numbers (RTNs), not listed on the Permanent or Temporary Solution Statement or previously submitted Revised Permanent or Temporary Solution Statements. RTNs that have been previously linked to a Tier Classified Primary RTN do not need to be listed here.
- b. Provide the additional Release Tracking Number(s) covered by this Permanent or Temporary Solution Statement. - -
- ☒ 4. Submit a **Permanent or Temporary Solution Partial Statement**
- Check above box, if any Response Actions remain to be taken to address conditions associated with this disposal site having the Primary RTN listed in the header section of this transmittal form. This Permanent or Temporary Solution Statement will record only a Permanent or Temporary Solution-Partial Statement for that RTN. A final Permanent or Temporary Solution Statement will need to be submitted that references all Permanent or Temporary Solution-Partial Statements and, if applicable, covers any remaining conditions not covered by the Permanent or Temporary Solution-Partial Statements.
- Also, specify if you are an Eligible Person or Tenant pursuant to M.G.L. c. 21 s.2, and have no further obligation to conduct response actions on the remaining portion(s) of the disposal site:
- ☐ a. Eligible Person ☐ b. Eligible Tenant
- ☐ 5. Submit a **Revised Permanent or Temporary Solution Partial Statement** (or revised RAO-Partial Statement)
- ☐ 6. Submit an optional **Phase I Completion Statement** supporting the Permanent or Temporary Solution Statement
- ☐ 7. Submit a **Periodic Review Opinion evaluating the status of a Temporary Solution**, as specified in 310 CMR 40.1051 (Section F is optional)
- ☐ 8. Submit a **Retraction** of a previously submitted **Permanent or Temporary Solution Statement** (or RAO Statement) (Sections E & F are not required)

(All sections of this transmittal form must be filled out unless otherwise noted above)



PERMANENT AND TEMPORARY SOLUTION STATEMENT

Pursuant to 310 CMR 40.1000 (Subpart J)

Release Tracking Number

3 - 23246

For sites with multiple RTNs, enter the Primary RTN above.

C. DESCRIPTION OF RESPONSE ACTIONS: (check all that apply; for volumes, list cumulative amounts)

- | | |
|---|---|
| ☒ 1. Assessment and/or Monitoring Only | ☐ 2. Temporary Covers or Caps |
| ☐ 3. Deployment of Absorbent or Containment Materials | ☐ 4. Treatment of Water Supplies |
| ☐ 5. Structure Venting System/HVAC Modification System | ☐ 6. Engineered Barrier |
| ☐ 7. Product or NAPL Recovery | ☐ 8. Fencing and Sign Posting |
| ☐ 9. Groundwater Treatment Systems | ☐ 10. Soil Vapor Extraction |
| ☐ 11. Remedial Additives | ☐ 12. Air Sparging |
| ☐ 13. Active Exposure Pathway Mitigation System | ☐ 14. Passive Exposure Pathway Mitigation System |
| ☐ 15. Monitored Natural Attenuation | ☐ 16. In-Situ Chemical Oxidation |
| ☐ 17. Removal of Contaminated Soils | |

- | | | | |
|--|---------------------------------------|---------------------------------|-------|
| ☐ a. Re-use, Recycling or Treatment | ☐ i. On Site | Estimated volume in cubic yards | _____ |
| | ☐ ii. Off Site | Estimated volume in cubic yards | _____ |

ii. Facility Name: _____ Town: _____ State: _____

ii. Facility Name: _____ Town: _____ State: _____

iii. Describe: _____

☐ b. Landfill _____

☐ i. Cover _____ Estimated volume in cubic yards _____
Facility Name: _____ Town: _____ State: _____

☐ ii. Disposal _____ Estimated volume in cubic yards _____
Facility Name: _____ Town: _____ State: _____

☐ 18. Removal of Drums, Tanks or Containers:

a. Describe Quantity and Amount: _____

b. Facility Name: _____ Town: _____ State: _____

c. Facility Name: _____ Town: _____ State: _____

☐ 19. Removal of Other Contaminated Media:

a. Specify Type and Volume: _____

b. Facility Name: _____ Town: _____ State: _____

c. Facility Name: _____ Town: _____ State: _____



PERMANENT AND TEMPORARY SOLUTION STATEMENT
Pursuant to 310 CMR 40.1000 (Subpart J)

Release Tracking Number

3 - 23246

For sites with multiple RTNs, enter the Primary RTN above.

C. DESCRIPTION OF RESPONSE ACTIONS (cont.): (check all that apply; for volumes, list cumulative amounts)

☐ 20. Other Response Actions:

Describe:

☐ 21. Use of Innovative Technologies:

Describe:

D. SITE USE:

1. Are the response actions that are the subject of this submittal associated with the *redevelopment, reuse* or the *major expansion of the current use* of property(ies) impacted by the presence of oil and/or hazardous materials?

☐ a. Yes ☒ b. No ☐ c. Don't know

2. Is the property a *vacant or under-utilized commercial or industrial* property ("a brownfield property")?

☐ a. Yes ☒ b. No ☐ c. Don't know

3. Will funds from a state or federal brownfield incentive program be used on one or more of the property(ies) within the disposal site?

☐ a. Yes ☒ b. No ☐ c. Don't know If Yes, identify program(s): _____

4. Has a Covenant Not to Sue been obtained or sought?

☐ a. Yes ☐ b. No ☐ c. Don't know

5. Check all applicable categories that apply to the person making this submittal:

☐ a. Redevelopment Agency or Authority

☐ b. Community Development Corporation

☐ c. Economic Development and Industrial Corporation

☐ d. Private Developer

☐ e. Fiduciary

☐ f. Secured Lender

☐ g. Municipality

☐ h. Potential Buyer (non-owner)

☒ i. Other, describe: OTHER PERPS

This data will be used by MassDEP for information purposes only, and does not represent or create any legal commitment, obligation or liability on the part of the party or person providing this data to MassDEP.

E. PERMANENT OR TEMPORARY SOLUTION CATEGORY:

Specify the category of Solution that applies to the Disposal Site, or Site of the Threat of Release. Select either **1, 2, or 3.**

☒ **1. Permanent Solution with No Conditions** (check one)

☐ a. A threat of release has been eliminated.

☐ b. All contamination has been reduced to Natural Background levels.

☒ c. A condition of No Significant Risk exists or has been achieved with no Activity and Use Limitation or other limitations, assumptions, or conditions (310 CMR 40.1013).



PERMANENT AND TEMPORARY SOLUTION STATEMENT
Pursuant to 310 CMR 40.1000 (Subpart J)

Release Tracking Number
3 - 23246

For sites with multiple RTNs, enter the Primary RTN above.

E. PERMANENT OR TEMPORARY SOLUTION CATEGORY (cont.):

☐ **2. Permanent Solution with Conditions** (check a and/or b):

☐ a. **An AUL has been implemented** pursuant to 310 CMR 1012(2) (check one)

☐ i. Required pursuant to 310 CMR 40.1012(2)

Is the AUL required because the Permanent Solution relies on an Active Exposure Pathway Mitigation Measure pursuant to CMR 310 40.1025?

☐ 1. Yes ☐ 2. No

☐ ii. Optionally implemented pursuant to 310 CMR 40.1012(3)

☐ b. **Limitations or conditions apply** pursuant to 310 CMR 40.1013 (check all that apply):

☐ i. Gardening Best Management Practices (BMPs) for non-commercial gardening in a residential setting

☐ ii. Concentrations of Oil and Hazardous Material consistent with Anthropogenic Background

☐ iii. Residual contamination in a Public or Railroad Right-of-Way

☐ iv. Groundwater contamination would exceed GW-2 Standards except for the absence of an occupied building or structure

☐ **3. Temporary Solution** (check a or b /and c)

☐ a. Response actions to achieve a Permanent Solution **are not currently feasible**

☐ b. Response actions to achieve a Permanent Solution **are feasible** and are being continued toward a Permanent Solution

☐ c. Does the Temporary Solution rely on an Active Exposure Pathway Mitigation Measure pursuant to 310 CMR 40.1026?

☐ Yes ☐ ii. No

F. PERMANENT AND TEMPORARY SOLUTION INFORMATION:

1. Specify the Risk Characterization Method(s) used to achieve the Permanent or Temporary Solution, described above:

☒ a. Method 1 ☐ b. Method 2 ☐ c. Method 3

☐ d. Method Not Applicable-Contamination reduced to or consistent with background, or Threat of Release abated

2. Specify all Soil Category(ies) applicable. More than one Soil Category may apply at a Site. Be sure to check off all **APPLICABLE** categories:

☐ a. S-1/GW-1 ☐ d. S-2/GW-1 ☐ g. S-3/GW-1 ☐ j. Not Applicable

☒ b. S-1/GW-2 ☐ e. S-2/GW-2 ☐ h. S-3/GW-2

☒ c. S-1/GW-3 ☐ f. S-2/GW-3 ☐ i. S-3/GW-3

3. Specify all Groundwater Category(ies) impacted. A site may impact more than one Groundwater Category. Be sure to check off all **IMPACTED** categories:

☐ a. GW-1 ☒ b. GW-2 ☒ c. GW-3 ☐ d. No Groundwater Impacted



PERMANENT AND TEMPORARY SOLUTION STATEMENT
Pursuant to 310 CMR 40.1000 (Subpart J)

Release Tracking Number

3

- 23246

For sites with multiple RTNs, enter the Primary RTN above.

F. PERMANENT AND TEMPORARY SOLUTION INFORMATION (cont.):

- ☐ 4. Check here if the risk assessment includes any changes to the groundwater category pursuant to 310 CMR 40.0932(5)(a) through (e). Check all conditions that apply:
- ☐ a. An Interim Wellhead Protection Area does not apply based on a hydrogeologic evaluation (310 CMR 40.0932(5)(a))
 - ☐ b. Groundwater was determined not to be in a Potentially Productive Aquifer or is not feasible to be developed as a drinking water supply (310 CMR 40.0932(5)(b))
 - ☐ c. A Non-Potential Drinking Water Source Area determination was made (310 CMR 40.0932(5)(c))
 - ☐ d. Existing private wells were permanently closed (310 CMR 40.0932(5)(d))
 - ☐ e. Groundwater is located within a Zone A, but is not hydrogeologically connected to a drinking water supply (310 CMR 40.0932(5)(e))
- ☐ 5. Check here if the Permanent or Temporary Solution supports a finding of No Significant Risk for petroleum in a GW-1 area pursuant to 310 CMR 40.0924(2)(b)3.

6. Specify whether remediation was conducted:

- ☐ a. Check here if soil remediation was conducted.
- ☐ b. Check here if groundwater remediation was conducted.
- ☐ c. Check here if other remediation was conducted.

Specify:

7. Specify whether the analytical data used to support the Permanent or Temporary Solution used the Compendium of Analytical Methods (CAM):

- ☒ a. CAM used to support all analytical data.
- ☐ b. CAM used to support some of the analytical data.
- ☐ c. CAM not used.

- ☒ 8. Check here to indicate that the Permanent or Temporary Solution Statement includes a Data Usability Assessment and Data Representativeness Evaluation pursuant to 310 CMR 40.1056.

9. Estimate the number of acres this Permanent or Temporary Solution Statement applies to:

0.12



Massachusetts Department of Environmental Protection
Bureau of Waste Site Cleanup

BWSC 104 12

PERMANENT AND TEMPORARY SOLUTION STATEMENT

Pursuant to 310 CMR 40.1000 (Subpart J)

Release Tracking Number

3

- 23246

For sites with multiple RTNs, enter the Primary RTN above.

G. LSP SIGNATURE AND STAMP:

I attest under the pains and penalties of perjury that I have personally examined and am familiar with this transmittal form, including any and all documents accompanying this submittal. In my professional opinion and judgment based upon application of (i) the standard of care in 309 CMR 4.02(1), (ii) the applicable provisions of 309 CMR 4.02(2) and (3), and 309 CMR 4.03(2), and (iii) the provisions of 309 CMR 4.03(3), to the best of my knowledge, information and belief,

> if Section B indicates that either a **Permanent or Temporary Solution Statement, Phase I Completion Statement and/or Periodic Review Opinion** is being provided, the response action(s) that is (are) the subject of this submittal (i) has (have) been developed and implemented in accordance with the applicable provisions of M.G.L. c. 21E and 310 CMR 40.0000, (ii) is (are) appropriate and reasonable to accomplish the purposes of such response action(s) as set forth in the applicable provisions of M.G.L. c. 21E and 310 CMR 40.0000, and (iii) comply(ies) with the identified provisions of all orders, permits, and approvals identified in this submittal.

I am aware that significant penalties may result, including, but not limited to, possible fines and imprisonment, if I submit information which I know to be false, inaccurate or materially incomplete.

1. LSP#: 9719

2. First Name: ILEENS 3. Last Name: GLADSTONE

4. Telephone: 7817214012 5. Ext.: 6. Email: igladstone@geiconsultants.com

7. Signature:

8. Date: mm/dd/yyyy 9. LSP Stamp: 

DRAFT COPY

H. PERSON MAKING SUBMITTAL:

1. Check all that apply: ☐ a. change in contact name ☐ b. change of address ☒ c. change in the person undertaking response actions

2. Name of Organization: UNIFIRST CORPORATION

3. Contact First Name: CATHERINE 4. Last Name: MALAGRIDA

5. Street: 68 JONSPIN ROAD 6. Title: ENV COMPLIANCE MANAGER

7. City/Town: WILMINGTON 8. State: MA 9. ZIP Code: 018870000

10. Telephone: 9786588888 11. Ext.: 0587 12. Email: catherine_malagrida@unifirst.com



PERMANENT AND TEMPORARY SOLUTION STATEMENT
Pursuant to 310 CMR 40.1000 (Subpart J)

Release Tracking Number
3 - 23246

For sites with multiple RTNs, enter the Primary RTN above.

I. RELATIONSHIP TO RELEASE OR THREAT OF RELEASE OF PERSON MAKING SUBMITTAL:

☐ Check here to change relationship

☒ 1. RP or PRP ☐ a. Owner ☐ b. Operator ☐ c. Generator ☐ d. Transporter

☒ e. Other RP or PRP Specify: OTHER PRPS

☐ 2. Fiduciary, Secured Lender or Municipality with Exempt Status (as defined by M.G.L. c. 21E, s. 2)

☐ 3. Agency or Public Utility on a Right of Way (as defined by M.G.L. c. 21E, s. 5(j))

☐ 4. Any Other Person Making Submittal Specify Relationship: _____

J. REQUIRED ATTACHMENT AND SUBMITTALS:

☐ 1. Check here if the Permanent or Temporary Solution on which this opinion is based, if any, are (were) subject to any order(s), permit(s) and/or approval(s) issued by DEP or EPA. If the box is checked, you MUST attach a statement identifying the applicable provisions thereof.

☐ 2. Check here to certify that the Chief Municipal Officer and the Local Board of Health have been notified of the submittal of a Permanent or Temporary Solution Statement that relies on the public way/rail right-of-way exemption from the requirements of an AUL.

☒ 3. Check here to certify that the Chief Municipal Officer and the Local Board of Health have been notified of the submittal of a Permanent or Temporary Solution Statement with instructions on how to obtain a full copy of the report.

☒ 4. Check here to certify that documentation is attached specifying the location of the Site, or the location and boundaries of the Disposal Site, subject to this Permanent or Temporary Solution Statement. If submitting a Permanent or Temporary Solution Statement for a PORTION of a Disposal Site, you must document the location and boundaries for both the portion subject to this submittal and, to the extent defined, the entire Disposal Site.

☒ 5. Check here to certify that, pursuant to 310 CMR 40.1406, notice was provided to the owner(s) of each property within the disposal site boundaries, or notice was not required because the disposal site boundaries are limited to property owned by the party conducting response actions. (check all that apply)

☒ a. Notice was provided prior to, or concurrent with the submittal of a Phase II Completion Statement to the Department.

☐ b. Notice was provided prior to, or concurrent with the submittal of this Permanent or Temporary Solution Statement to the Department.

☐ c. Notice not required. d. Total number of property owners notified, if applicable: 112

☐ 6. Check here if you are submitting one or more AULs. You must submit an AUL Transmittal Form (BWSC113) and a copy of each implemented AUL related to this Permanent Solution or Temporary Solution Statement. Specify the type of AUL(s) below: (required for Permanent Solution with Conditions Statements where an AUL is being implemented)

☐ a. Notice of Activity and Use Limitation b. Number of Notices submitted: _____

☐ c. Grant of Environmental Restriction d. Number of Grants submitted: _____

☐ 7. If a Permanent Solution Compliance Fee is required for any of the RTNs listed on this transmittal form, check here to certify that a Permanent Solution Compliance Fee was submitted to DEP, P. O. Box 4062, Boston, MA 02211.

☐ 8. Check here if any non-updatable information provided on this form is incorrect, e.g. Site Address/Location Aid. Send corrections to bwsc.edep@state.ma.us.

☒ 9. Check here to certify that the LSP Opinion containing the material facts, data, and other information is attached.



PERMANENT AND TEMPORARY SOLUTION STATEMENT

Pursuant to 310 CMR 40.1000 (Subpart J)

Release Tracking Number

3

- 23246

For sites with multiple RTNs, enter the Primary RTN above.

K. CERTIFICATION OF PERSON MAKING SUBMITTAL:

1. I, _____, attest under the pains and penalties of perjury (i) that I have personally examined and am familiar with the information contained in this submittal, including any and all documents accompanying this transmittal form, (ii) that, based on my inquiry of those individuals immediately responsible for obtaining the information, the material information contained in this submittal is, to the best of my knowledge and belief, true, accurate and complete, and (iii) that I am fully authorized to make this attestation on behalf of the entity legally responsible for this submittal. I/the person or entity on whose behalf this submittal is made am/is aware that there are significant penalties, including, but not limited to, possible fines and imprisonment, for willfully submitting false, inaccurate, or incomplete information.

2. By: _____ 3. Title: _____
Signature

4. For: UNIFIRST CORPORATION 5. Date: _____
(Name of person or entity recorded in Section H) mm/dd/yyyy

☐ 6. Check here if the address of the person providing certification is different from address recorded in Section H.

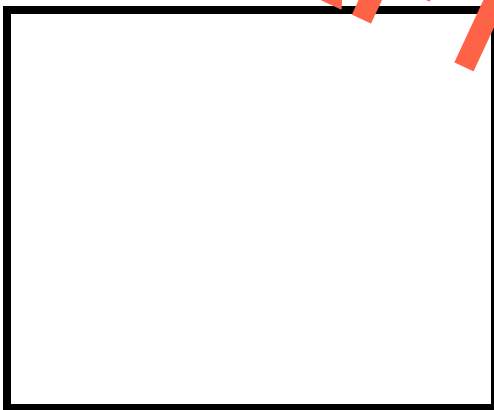
7. Street: _____

8. City/Town: _____ 9. State: _____ 10. ZIP Code: _____

11. Telephone: _____ 12. Ext.: _____ 13. Email: _____

YOU ARE SUBJECT TO AN ANNUAL COMPLIANCE ASSURANCE FEE OF UP TO \$10,000 PER BILLABLE YEAR FOR THIS DISPOSAL SITE. YOU MUST LEGIBLY COMPLETE ALL RELEVANT SECTIONS OF THIS FORM OR DEP MAY RETURN THE DOCUMENT AS INCOMPLETE. IF YOU SUBMIT AN INCOMPLETE FORM, YOU MAY BE PENALIZED FOR MISSING A REQUIRED DEADLINE.

Date Stamp (DEP USE ONLY):



DRAFT COPY

RTN 3-23246
Partial Permanent Solution Statement
for 152 – 154 Glen Street, Somerville, Massachusetts
50 Tufts Street Site, Somerville, Massachusetts
UniFirst Corporation
December 1, 2023

Appendix B

Public Notification Documentation

Consulting
Engineers and
Scientists

December 1, 2023
Project 04516-3

Mayor Katjana Ballantyne
Somerville City Hall
93 Highland Avenue
Somerville, MA 02143-1740

Dear Mayor Ballantyne:

**Re: Partial Permanent Solution Statement
152-154 Glen Street
Somerville, Massachusetts
MassDEP RTN 3-23246**

On behalf of UniFirst Corporation (UniFirst) of Wilmington, Massachusetts, GEI Consultants, Inc. is notifying your office that a Partial Permanent Solution Statement has been prepared for the portion of the 50 Tufts Street disposal site (Site) identified as 152-154 Glen Street in Somerville, Massachusetts (Property).

The conclusions of the Partial Permanent Solution Statement include the following:

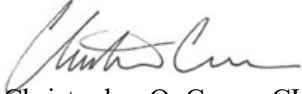
- No Significant Risk: A condition of No Significant Risk (NSR) to human health, safety, public welfare, and the environment exists for all receptors with No Conditions at the Property, and no remedial actions are required.
- Source Elimination and Control: There are no unpermitted releases of oil or hazardous material (OHM) at the Site, and the sources of OHM at the Site are eliminated to the extent feasible and are controlled.
- Migration Control: The groundwater and soil vapor plumes at the Site are stable.
- Non-Aqueous Phase Liquid (NAPL): Visible NAPL has not been observed at the Site, and any dense non-aqueous phase liquid (DNAPL) that may be present is not migrating and exists in a stable configuration. The Phase III for the Site demonstrated that it is not feasible to eliminate DNAPL.
- An Activity and Use Limitation (AUL) is not required to maintain a condition of NSR at the Property.

The Partial Permanent Solution Statement has been submitted to the Massachusetts Department of Environmental Protection (MassDEP) Northeast Regional Office in Woburn, Massachusetts for the above-referenced Site. A copy of the report is available on their website at <https://eeaonline.eea.state.ma.us/portal#!/search/wastesite>.

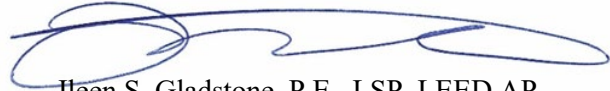
If you have any questions, please do not hesitate to contact me at 781-721-4012 or igladstone@geiconsultants.com.

Sincerely,

GEI CONSULTANTS, INC.



Christopher O. Coner, CHMM
Project Manager



Heen S. Gladstone, P.E., LSP, LEED AP
Senior Vice President

MEF/COC/ISG:jam

c: Catherine Malagrida, UniFirst Corporation
MassDEP Northeast Region

Consulting
Engineers and
Scientists

December 1, 2023
Project 04516-3

Ms. Nancy Bacci
Deputy Director, Health Department
City Hall Annex
50 Evergreen Avenue
Somerville, MA 02145-2819

Dear Ms. Bacci:

**Re: Partial Permanent Solution Statement
152-154 Glen Street
Somerville, Massachusetts
MassDEP RTN 3-23246**

On behalf of UniFirst Corporation (UniFirst) of Wilmington, Massachusetts, GEI Consultants, Inc. is notifying your office that a Partial Permanent Solution Statement has been prepared for the portion of the 50 Tufts Street disposal site (Site) identified as 152-154 Glen Street in Somerville, Massachusetts (Property).

The conclusions of the Partial Permanent Solution Statement include the following:

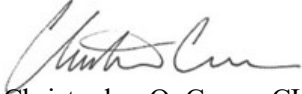
- No Significant Risk: A condition of No Significant Risk (NSR) to human health, safety, public welfare, and the environment exists for all receptors with No Conditions at the Property, and no remedial actions are required.
- Source Elimination and Control: There are no unpermitted releases of oil or hazardous material (OHM) at the Site, and the sources of OHM at the Site are eliminated to the extent feasible and are controlled.
- Migration Control: The groundwater and soil vapor plumes at the Site are stable.
- Non-Aqueous Phase Liquid (NAPL): Visible NAPL has not been observed at the Site, and any dense non-aqueous phase liquid (DNAPL) that may be present is not migrating and exists in a stable configuration. The Phase III for the Site demonstrated that it is not feasible to eliminate DNAPL.
- An Activity and Use Limitation (AUL) is not required to maintain a condition of NSR at the Property.

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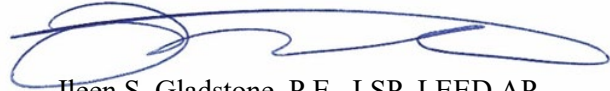
If you have any questions, please do not hesitate to contact me at 781-721-4012 or igladstone@geiconsultants.com.

Sincerely,

GEI CONSULTANTS, INC.



Christopher O. Coner, CHMM
Project Manager



Helen S. Gladstone, P.E., LSP, LEED AP
Senior Vice President

MEF/COC/ISG:jam

c: Catherine Malagrida, UniFirst Corporation
MassDEP Northeast Region

Appendix C

Phase II Environmental Site Assessment Summary Report – TRC 2014

PHASE II ENVIRONMENTAL SITE ASSESSMENT SUMMARY REPORT

**163 Glen Street Site
Somerville, Massachusetts**

Prepared for:



Somerville Community Corporation
337 Somerville Avenue
Somerville, MA 02143

Prepared by:



TRC Environmental Corporation
650 Suffolk Street
Lowell, Massachusetts 01854
(978) 970-5600

February 2014

PHASE II ENVIRONMENTAL SITE ASSESSMENT SUMMARY REPORT

**163 Glen Street Site
Somerville, Massachusetts**

Prepared for:



Somerville Community Corporation
337 Somerville Avenue
Somerville, MA 02143

Prepared by:



TRC Environmental Corporation
650 Suffolk Street
Lowell, Massachusetts 01854
(978) 970-5600

February 2014

EXECUTIVE SUMMARY

TRC Environmental Corporation (TRC) performed a Supplemental American Society of Testing Materials (ASTM) Phase II Environmental Site Assessment (Phase II ESA) for the property located at 163 Glen Street in Somerville, Middlesex County, Massachusetts (the “Site”). The approximately 0.69-acre Site is comprised of three separate parcels identified as Parcels A-1, A-2 and B. TRC performed this Site investigation for Somerville Community Corporation (SCC).

We have performed a Phase II ESA at the Site in conformance with the scope and limitations of ASTM Practice E 1903-11 and our proposal dated January 9, 2014 for the following objectives. TRC’s Supplemental Phase II ESA was designed to further assess current environmental conditions at the Site and to evaluate the *Recognized Environmental Conditions* (RECs) identified in an American Society of Testing and Materials (ASTM) Phase I Environmental Site Assessment (ESA) of the Site completed by TRC in January 2014 on behalf of SCC. Historical documents reviewed by TRC as part of the ASTM Phase I ESA indicated that the Site has historically been occupied by multiple tenants, several of whom stored and used oil and hazardous materials. These tenants include a former vocational school consisting of a machine shop and auto repair garage school, and a garage facility occupied by the City of Somerville Department of Public Works. A Limited Sub Surface investigation was performed by Lake Shore Environmental (LSE) in January 2014.

Based upon the findings of TRC’s 2014 Phase I and LSE’s 2014 Limited Subsurface Investigation, TRC conducted Phase II ESA activities at the Site between January 20 and January 21, 2014. TRC’s Site investigative activities included the installation of four (4) soil borings at the Site, all of which were converted to groundwater monitoring wells. Soil and groundwater samples were collected for laboratory analysis from these borings and monitoring wells. TRC’s Site investigative activities also included the installation of one (1) soil gas point, from which one (1) soil gas sample was collected for laboratory analysis. The sampling locations are provided on Figure 2.

The following conclusions are based on the results of this Phase II ESA:

- **Overburden Geology** – Based on observations made during soil boring advancement, the Site is underlain by fine to medium sand, silt, and gravel. Varying amounts of clay are present from approximately 5 to 12 feet below ground surface on the eastern portion of the Site based on soils observed in TRC-3 and TRC-4. Refusal was encountered in dense soils at TRC-1, resulting in the monitoring well at that location being set at 16.5 feet below ground surface.
- **Groundwater Flow Direction and Depth** – During groundwater sampling activities on January 21, 2014, TRC gauged the newly-installed on-Site wells. Groundwater depths from the top of the PVC well riser ranged from approximately 6.80 feet at TRC-4 adjacent to the Site building to approximately 10.63 feet at TRC-2 below the Site parking lot. NAPL was not detected during groundwater sampling activities. Due to time constraints, a relative

groundwater elevation survey was not conducted at the Site. Based on local topography and a review of prior reports, the direction of shallow groundwater flow is towards the east.

- **Soil Analytical Results** – Laboratory analytical results of soil samples collected from the Site were compared to MCP RCS-1 soil criteria, and Method 1 S-1/GW-2, S-1/GW-3, S-2/GW-2, and S-2/GW-3 cleanup standards. Where duplicate samples were collected or multiple exceedances were detected for a given compound, the higher result is discussed below.
 - Four EPH constituents were detected above their respective RCS-1 and Method 1 S-1/GW-2 and S-1/GW-3 standards in Site soil:
 - Benzo(a)anthracene in sample TRC-3 (0-8/10') – 15 mg/kg
 - Benzo(b)fluoranthene in sample TRC-3 (0-8/10') – 14 mg/kg
 - Dibenzo(a,h)anthracene in sample TRC-3 (0-8/10') – 1.4 mg/kg
 - One EPH constituent was also detected above Method 1 S-2/GW-2 and S-2/GW-3 standards in addition to RCS-1 and S-1/GW-2 and S-1/GW-3 standards:
 - Benzo(a)pyrene in sample TRC-3 (8-10/10') - 11 mg/kg
 - Two metals were detected above their respective RCS-1 and Method 1 S-1/GW-2 and S-1/GW-3 standards in Site soil:
 - Chromium in sample TRC-4 (0-8/8') – 51 mg/kg
 - Nickel in sample TRC-4 (0-8/8') – 32 mg/kg
 - One metal was also detected above Method 1 S-2/GW-2 and S-2/GW-3 standards in addition to RCS-1 and S-1/GW-2 and S-1/GW-3 standards:
 - Lead in sample TRC-1 (0-8/11') – 800 mg/kg
 - Other VOC and EPH constituents, as well as various metals, were identified above laboratory reporting limits but below RCS-1 and Method 1 S-1/GW-2, S-1/GW-3, S-2/GW-2, and S-2/GW-3 cleanup standards.
- **Groundwater Analytical Results** –Laboratory analytical results of groundwater samples collected from the Site were compared to MCP RCGW-2 reporting criteria, and GW-2 and GW-3 cleanup standards. Samples were collected to the proposed 2013 MassDEP standards in anticipation of their implementation. In several instances, proposed criteria for GW-2 and GW-3 vary from past years.
 - Two VOC constituents were detected above MCP RCGW-2 and current Method 1 GW-2 standards:

- Tetrachloroethylene in sample TRC-1 – 130 µg/L

Due to the lowering of the GW-2 cleanup standard for trichloroethylene from 30 µg/L to the proposed 2013 MassDEP standard of 5 µg/L, the 12 µg/L concentration of trichloroethylene found in TRC-1 is considered subject to GW-2 cleanup requirements.

Total lead was detected in the unfiltered sample of TRC-1 above RCGW-2 and GW-2 standards at a concentration of 14 µg/L. A filtered lead sample was submitted to the laboratory. This sample was also analyzed for dissolved lead and results will be provided as an update to this report when available.

- **Soil Gas Analytical Results** – Laboratory analytical results for the soil gas sample were compared to MassDEP soil gas screening levels as established in MassDEP's Vapor Intrusion Guidance Document dated December 2011. Soil gas sample SG-1 was analyzed for VOCs via EPA Method TO-15. Several constituents were detected above laboratory detection limits but did not exceed residential screening levels. Tetrachloroethylene was detected in sample SG-1 at a concentration of 360 µg/m³, which is in excess of both residential and commercial/industrial screening levels.
- **Regulatory Notification Obligations** - TRC recommends that MassDEP be notified of concentrations of the following constituents in soil and groundwater within 120-days of receipt of this report by a responsible party (e.g. owner, operator, etc.). All reporting obligations apply to the current standards and are not affected by proposed alterations to the GW-2 and GW-3 cleanup standards.

Soil exceedances:

- Benzo(a)anthracene (15 mg/kg)
- Benzo(b)fluoranthene (14 mg/kg)
- Dibenzo(a,h)anthracene (1.4 mg/kg)
- Chromium (51 mg/kg)
- Nickel (32 mg/kg)
- Lead (800 mg/kg)

Groundwater exceedances:

- Total lead (10 µg/L)

TABLE OF CONTENTS

EXECUTIVE SUMMARY	i
1.0 INTRODUCTION	1-1
1.1 Objective	1-1
1.2 Site Description	1-1
1.3 Background	1-2
1.3.1 2014 Phase I Environmental Site Assessment - TRC	1-2
1.3.2 2014 Limited Subsurface Investigation – Lake Shore Environmental (LSE)	1-2
2.0 TECHNICAL APPROACH	2-1
2.1 Soil Borings and Soil Sampling	2-1
2.2 Groundwater Monitoring Well Installation, Development, and Sampling	2-2
2.3 Soil Gas Point Installation and Sampling	2-4
2.4 Applicable Soil and Groundwater Standards	2-4
3.0 SITE ASSESSMENT RESULTS	3-1
3.1 Subsurface Conditions	3-1
3.2 Soil Analytical Results	3-1
3.3 Groundwater Analytical Results	3-2
3.4 Soil Gas Analytical Results	3-2
3.5 Data Usability Assessment	3-3
4.0 CONCLUSIONS	4-1
5.0 LIMITATIONS	5-1
6.0 REFERENCES	6-1

TABLES

Table 2-1: Summary of Soil Samples Collected	2-2
Table 2-2: Summary of Monitoring Well Construction Details.....	2-3
Table 2-3: Summary of Groundwater Samples Collected.....	2-3
Table 3-1: Summary of Analytical Results for Soil Samples – January 2014	3-4
Table 3-2: Summary of Analytical Results for Groundwater – January 2014	3-7
Table 3-3: Summary of Analytical Results for Soil Gas – January 2014	3-10

FIGURES

Figure 1:	Site Location Map
Figure 2:	Site Plan
Figure 3:	Priority Resource Map

APPENDICES

Appendix A:	Soil Boring Logs and Well Construction Diagrams
Appendix B:	Laboratory Analytical Reports
Appendix C:	Data Usability Assessment

1.0 INTRODUCTION

1.1 Objective

TRC Environmental Corporation (TRC) performed a Phase II Environmental Site Assessment (Phase II ESA) for the property located at 163 Glen Street in Somerville, Middlesex County, Massachusetts (the “Site”). TRC performed this Site investigation for Somerville Community Corporation (SCC).

TRC’s Phase II ESA was designed to assess current environmental conditions at the Site and to evaluate the *Recognized Environmental Conditions* (RECs) identified in an American Society of Testing and Materials (ASTM) Phase I Environmental Site Assessment (ESA) completed by TRC for the Site in January 2014 on behalf of SCC. Historical documents reviewed by TRC as part of the ASTM Phase I ESA indicated that the Site has historically been occupied by multiple tenants, several of whom stored and used oil and hazardous materials. These tenants include a former vocational school consisting of a machine shop and auto repair garage school, and a garage facility occupied by the City of Somerville Department of Public Works. The Phase I ESA identified six recognized environmental conditions (RECs) in connection with the Site, including:

- REC:1 Impacts to Site soil, groundwater, and indoor air resulting from a release of tetrachloroethylene (PCE) at 50 Tufts Street associated with RTN 3-23246;
- REC:2 Potential impacts to Site soil and groundwater resulting from a 1,000-gallon No. 2 fuel oil underground storage tank (UST) located to the immediate west of the Site building;
- REC:3 Potential impacts to Site soil and groundwater resulting from a historic UST of unknown size and contents, now suspected of being abandoned and located beneath the eastern portion of the Site building;
- REC:4 Historic impacts to Site soil and/or groundwater from former onsite machine shop operations;
- REC:5 Historic impacts to Site soil and/or groundwater from former auto repair school and Somerville DPW garage operations; and
- REC:6 Impacts to Site soil and groundwater resulting from historic urban filling activities.

1.2 Site Description

The approximately 0.69-acre Site is comprised of three separate parcels identified as Parcels A-1, A-2 and B. These parcels are described by the City of Somerville tax assessor as Lots 93-A-13, 93-A-14, and 93-A-12, respectively. The northern portion of the Site (Lot 93-A-12/Parcel B) is developed with a single-story brick and masonry building comprised of approximately 4,870 square feet of finished floor space. The building was constructed in approximately 1925. Currently, the building is unoccupied and unused; however, it was most recently used as a veterans club/lounge. An approximately 100-square foot maintenance shed is located to the

immediate west of the Site building. Remaining portions of the Site primarily consist of asphalt-paved parking areas. The Site is currently owned by Peter Piantidosi but is under agreement with SCC to purchase the Site and facilitate redevelopment as multi-family housing. Refer to Figure 1 for a Site Location Map and Figure 2 for a Site Plan.

The Site is located approximately 0.8 mile southwest of the Mystic River and the Site topographic elevation is approximately 20 feet above mean sea level (MSL). Local topography is generally flat.

1.3 Background

The Site is occupied by a brick and masonry building totaling approximately 4,870 square feet of finished floor space and a shed totaling approximately 100 square feet. The current Site building was constructed in 1925 and was previously used as an automotive repair school, a DPW garage, and, most recently, a veteran's lodge/club. Two additional former Site building were associated with a vocational school with uses including a machine shop, a carpenter shop, and office space.

The properties surrounding the Site have historically been primarily occupied by residential as well as light commercial and light industrial tenants, including delivery services, a movie theater, and a bottling warehouse. By 1955, residential properties to the immediate southwest were demolished and replaced with a commercial warehouse building (50 Tufts Street) which was later reportedly occupied (at least in part) by a dry-cleaning service facility. By the 1960s, this building was expanded lengthwise along Tufts Street. Between at least 1989 and 1991, the property operated as a commercial retail laundry supply store. Since 1940, the use or remaining surrounding properties have remained virtually unchanged.

1.3.1 2014 Phase I Environmental Site Assessment - TRC

Historical records reviewed as part of TRC's January 2014 Phase I ESA indicated the Site was occupied by a vocational school, a DPW garage, and a veteran's lodge/club. Historical Site uses likely involved oil and hazardous materials associated with a former machine shop and auto repair school. The Site is also situated adjacent to 50 Tufts Street, which is the source of a historic release of PCE associated with RTN 3-23246. Six RECs were identified in connection with the Site (as discussed in Section 1.1) which exhibited the potential to impact soil and groundwater at the Site, as well as indoor air at current and future Site buildings.

1.3.2 2014 Limited Subsurface Investigation – Lake Shore Environmental (LSE)

The January 2014 report prepared by LSE summarizes Phase II subsurface investigation activities completed at the Site. The investigation included the advancement of five test borings (LSE-1 through LSE-5), installation of three monitoring wells (MW-1 through MW-3), and the testing of soil and groundwater to evaluate environmental conditions at the Site. Soil samples collected from the borings were not submitted for laboratory analysis. Groundwater samples were collected from each of the newly installed monitoring wells using unspecified methodology and submitted to Geo Labs of Braintree, Massachusetts for analysis of volatile organic

compound (VOC) via EPA Test Method 8260. Results indicated concentrations of VOCs below applicable MassDEP Reportable Concentrations (RCs) for all analyzed constituents with the exception of PCE, which was reported at 124 micrograms per liter (ug/L).

LSE's investigation also included the excavation of two test pits located; 1) adjacent to the reported 1,000-gallon heating oil UST installed on the western side of the Site building in September 1967; and 2) at the front (eastern) side of the Site building where an oil fill pipe associated with a suspected abandoned UST was observed. The first test pit was excavated to a depth of twelve feet (two feet below the bottom of the UST) where a soil sample was collected and submitted to Geo Labs for extractable petroleum hydrocarbons (EPH) and volatile petroleum hydrocarbons (VPH) analyses. Results indicated detections below applicable RCs for soil. Excavation of the second test pit did not reveal any piping suggesting the tank had been located inside or adjacent to the building. LSE was unable to conclusively identify the location of the UST, but presumed its location to be beneath the building's concrete floor.

Based on investigation findings, LSE concluded the following:

- Solvent contamination associated with RTN 3-23246 has impacted the western corner of the Site in the area of TB/MW-1;
- Low level petroleum contamination exists in Site soils, below MassDEP RCS-1;
- An abandoned UST, likely associated with the former onsite DPW garage, exists beneath the Site building; and
- Test borings installed downgradient of the suspected abandoned UST location revealed no evidence of petroleum contamination.

2.0 TECHNICAL APPROACH

TRC conducted Phase II ESA activities at the Site between January 20 and January 21, 2014. Boring, monitoring well, and soil gas locations were selected based upon the findings of TRC's 2014 Phase I and LSE's 2014 Limited Subsurface Investigation, as well as proposed building locations provided by SCC. TRC's Site investigative activities included the installation of four (4) soil borings at the Site, all of which were converted to groundwater monitoring wells. Soil and groundwater samples were collected for laboratory analysis from these borings and monitoring wells. TRC's Site investigative activities also included the installation of one (1) soil gas point, from which one (1) soil gas sample was collected for laboratory analysis. The sampling locations are provided on Figure 2.

The following summarizes activities performed as part TRC's Phase II ESA. Unless otherwise specified, work was performed in accordance with TRC's proposal to SCC dated January 9, 2014 and in accordance with TRC SOPs.

2.1 Soil Borings and Soil Sampling

TRC's Phase II ESA soil boring and monitoring well installation program was performed from January 20 to January 21, 2014. Prior to intrusive activities, a Site-Specific Health and Safety Plan (HASP), dated January 2014, was prepared and Digsafe utility clearance (Digsafe Ticket #2014-0302145) was notified at least 72-hours in advance. The locations of the newly-installed soil borings and monitoring wells, in addition to the existing wells and boring locations, are depicted on Figure 2. Soil samples submitted to the laboratory and the requested analyses are provided on Table 1-1 below.

The program consisted of the installation of four (4) borings, all of which were advanced using GeoProbe direct-push drilling methods using a model 7822DT track rig. Each boring was completed as a two-inch diameter polyvinyl chloride (PVC) monitoring well (TRC-1 through TRC-4). Soil borings were advanced to between approximately 19 to 20 feet below ground surface (bgs). Soil boring logs and well construction diagrams are presented in Appendix A.

Continuous soil samples were collected during drilling activities using 60-inch acetate-lined macro-core sleeves. Soil samples were screened in the field for the presence of VOCs with a PID using the MassDEP jar headspace method. Organic vapor concentrations and visual and olfactory observations of contamination were noted during field screening.

Laboratory samples were submitted to Con-Test Analytical Laboratory of East Longmeadow, Massachusetts (Con-Test) for analysis. One composite sample was collected from each of the four borings (TRC-1 through TRC-4) for non-volatile constituents from a depth of zero to eight feet bgs, while VOC samples were collected from the depth interval immediately above the observed groundwater table. Soil samples collected from each boring were submitted for laboratory analysis of VOC, EPH carbon ranges, PAH, and MCP-14 Metals. A summary of the soil samples collected for laboratory analysis is provided in Table 2-1.

Table 2-1: Summary of Soil Samples Collected 163 Glen Street Site, Somerville, Massachusetts January 2014					
Sample Location	Sample Depth (ft bgs)¹	VOC	EPH Carbon Ranges	PAH	MCP-14 Metals
TRC-1	0-8/11	X	X	X	X
TRC-2	0-8/11	X	X	X	X
TRC-3	0-8/10	X*	X*	X*	X*
TRC-4	0-8/8	X	X	X	X
Notes: EPH – extractable petroleum hydrocarbons VOC – Volatile Organic Compounds PAH – Polycyclic Aromatic Hydrocarbons MCP – Massachusetts Contingency Plan bgs – bgs * - Duplicate sample collected ¹ - The depth range identifies the sample collection depth for homogenized parameters (EPH, PAH, and Metals). Volatile parameters (VOC) were collected from the targeted depth provided.					

2.2 Groundwater Monitoring Well Installation, Development, and Sampling

The four (4) newly-installed monitoring wells at the Site (TRC-1 through TRC-4) were constructed with a 10-slot (0.010-inch machine slotted) screen spanning the surface of the groundwater table, as observed during drilling activities. TRC-1 through TRC-4 were constructed of two-inch outside diameter PVC. Monitoring wells TRC-2 through TRC-4 were installed to a depth of 20 feet bgs with 10 feet of screen. Due to refusal, TRC-1 was installed to a depth of 16.5 feet bgs. Existing monitoring wells MW-113 and GEO-3 were also installed to a depth of 20 feet bgs.

The screened interval was surrounded by a filter pack of silica sand extending to a level approximately one to two feet above the top of the screen. A one-foot bentonite seal was installed above the sand pack. Newly-installed wells were completed at ground surface with an aluminum road box and secured with a concrete collar. Newly installed groundwater monitoring well locations are depicted on Figure 2. Well construction details are provided in Table 2-2.

Monitoring wells were developed on January 20, 2014 using a submersible centrifugal (whale) pump to remove fine particles from around the sand pack and well screen. Wells were purged until water ran clear. Due to project time constraints, newly-installed wells were sampled the day following development instead of allowing for a 7-day stabilization period.

TRC gauged each of the newly-installed groundwater monitoring wells on January 21, 2014 prior to conducting groundwater sampling. The top of the inner PVC riser was used as a measuring point. Based on pre-sampling gauging activities, groundwater depths ranged from approximately 6.80 (MW-4) to 10.63 (TRC-2) feet below the top of the PVC riser. Non-aqueous phase liquid (NAPL) was not detected during groundwater sampling activities.

A summary of monitoring well construction and gauging data for on-Site monitoring wells installed by TRC is provided on Table 2-2.

Table 2-2: Summary of Monitoring Well Construction Details 163 Glen Street Site, Somerville, Massachusetts January 2014				
Well ID	Material	Total Depth (ft)¹	Screen Interval (ft)¹	DTW (ft)
TRC-1	2-inch sch 40 PVC	16.15	6.15-16.15	10.10 ²
TRC-2	2-inch sch 40 PVC	19.22	9.22-19.22	10.63 ²
TRC-3	2-inch sch 40 PVC	16.85	6.85-16.85	9.60 ²
TRC-4	2-inch sch 40 PVC	19.00	9.00-19.00	6.80 ²
Notes: ¹ - Measured from top of well riser on 1/21/14 TOR – top of riser DTW – depth to water				

TRC collected groundwater samples from the four (4) newly-installed monitoring wells (TRC-1 through TRC-4) on January 21, 2014. Groundwater sampling was conducted using peristaltic pumps. The tubing inlet was set at the approximate center of the water column, based on measured total well depth and depth to water. Water quality parameters were monitored and recorded using a YSI 556 water quality meter. Recorded parameters included temperature, conductivity, pH, dissolved oxygen (DO), and oxygen reduction potential (ORP). A separate LaMotte 2020we turbidity meter was used for turbidity measurements. Groundwater samples were collected after the water quality parameters stabilized in accordance with EPA Region 1 Low Stress (Low Flow) guidelines. Groundwater samples were submitted to Con-Test for laboratory analysis of EPH carbon ranges, VOCs, PAH, and MCP14 Metals. A summary of the groundwater samples collected for laboratory analysis is provided in Table 2-3.

Table 2-3: Summary of Groundwater Samples Collected 163 Glen Street Site, Somerville, Massachusetts January 2014	
Sample ID	EPH Carbon Ranges, VOCs, PAH, MCP-14 Metals
TRC-1	X
TRC-2	X
TRC-3	X*
TRC-4	X
EPH – extractable petroleum hydrocarbons VOCs – Volatile Organic Compounds PAH – Polycyclic Aromatic Hydrocarbons MCP – Massachusetts Contingency Plan * - Duplicate sample collected	

2.3 Soil Gas Point Installation and Sampling

On January 20, 2014 one boring (SG-1) was advanced through the asphalt in the footprint of the proposed Site building using a 1 ½" diameter bit to facilitate the installation of a temporary soil gas point. The point was used to evaluate potential impacts to future indoor air quality from vapor intrusion through the concrete slab of a proposed Site building. Penetration ceased when soil was encountered. The asphalt thickness in this location was measured to be approximately four inches. Following boring advancement, TRC personnel sealed the point with inert sealant gum. The soil gas point location is depicted on Figure 2.

Purging of the soil gas probes was performed in conjunction with the tracer gas test. The purge rate was set at less than 0.2 liter per minute. Approximately five purge volumes were evacuated during the tracer gas test prior to sample collection. A Radiodetection® MGD-2002 helium gas detector was used to quantify the concentration of helium in the during the tracer test. The soil gas point exhibited less than 5 percent of the shroud helium concentration, confirming a competent seal.

Once competency of the seal was confirmed, the soil gas sample was collected from SG-1 in pre-cleaned, evacuated, passivated stainless steel laboratory-supplied SUMMA® canisters over a period of approximately 30 minutes using flow controllers to ensure sample collection rates were less than 0.2 liter per minute. The sample was submitted to Con-Test for laboratory analysis of VOCs by EPA Method TO-15.

2.4 Applicable Soil and Groundwater Standards

Analytical data obtained as part of TRC's Phase II ESA were compared to applicable MCP reporting standards. For the purpose of determining whether a notification obligation exists at the Site for soil, soil concentrations were compared to Massachusetts Contingency Plan (MCP) Reportable Concentrations (RCs) for S-1 soils (RCS-1). Soil concentrations were also compared to Method 1 S-1/GW-2, S-1/GW-3, S-2/GW-2, and S-2/GW-3 soil cleanup standards in an effort to evaluate potential cleanup options.

For the purpose of determining whether a notification obligation exists at the Site for groundwater, groundwater results were compared to RCs for GW-2 groundwater (RCGW-2). Groundwater results were compared to MCP Method 1 GW-2 and GW-3 cleanup standards. The following section provides rational for determining applicable soil and groundwater categories for comparing contaminant concentrations to appropriate numerical standards based on current and reasonably foreseeable future Site activities and uses.

Soil Criteria

Reporting – Per 310 CMR 40.0361(1)(a)(1) of the MCP, the applicable reporting category for soils collected at the Site is RCS-1 because soil samples were generally collected within 500 feet of suspected residential dwellings.

Cleanup – The Site was compared to MCP Method 1 S-1 standards because the Site currently has unrestricted access and is not subject to an Activity Use Limitation (AUL) pursuant to 310 CMR 40.0933 of the MCP. Other soil standards may be applicable depending on Site uses and activities.

Groundwater Criteria

Reporting – Per 310 CMR 40.0362(1)(b) of the MCP, the applicable reporting category for groundwater collected at the Site is RCGW-2 because groundwater samples were not collected within a Current or Potential Drinking Water Source Area.

Cleanup – The potentially applicable groundwater classification for the Site is MCP categories GW-2 and GW-3 as explained below.

Groundwater is categorized based upon the current and/or future use as a drinking water source (GW-1), its potential to act as a source of volatile material to indoor air (GW-2), and the potential to discharge material to surface water (GW-3). The MCP describes six criteria used for determining if disposal site groundwater is categorized as GW-1. These criteria include the following table.

GW-1 Selection Criteria	Applicable (Yes or No)
The groundwater is within a Zone II	NO
The groundwater is within an Interim Wellhead Protection Area	NO
The groundwater is within a Potentially Productive Aquifer	NO
The groundwater is within Zone A of a Class A Surface Water Body	NO
The groundwater is located greater than 500 feet from a public water system distribution pipeline*	NO
The groundwater is located within 500 feet of a private water supply well that was in use at the time of notification pursuant to 310 CMR 40.0300 and was installed in conformance with an applicable laws, by-laws, or regulations	NO
Notes: Information Source - <i>Massachusetts Geographic Information Systems (MassGIS) MassDEP Priority Resource Map.</i>	

The groundwater at the Site does not meet any of the above criteria, and is therefore not categorized as GW-1.

The MCP indicates that groundwater is categorized as GW-2 when it is located within 30 feet of an occupied building or structure and the average annual depth to groundwater in the area is

fifteen feet or less. During investigation activities, average depth to groundwater across the Site ranged from approximately 6.80 feet at TRC-4 adjacent to the Site building to approximately 10.63 feet below the Site parking lot. Although the Site building is not currently occupied, groundwater was compared to GW-2 standards in consideration of future development plans.

Finally, in accordance with 310 CMR 40.0932(2) of the MCP, all groundwater within the Commonwealth is classified as GW-3.

Therefore, it is expected that the appropriate MCP groundwater classification for the Site is GW-2 and GW-3.

3.0 SITE ASSESSMENT RESULTS

Summaries of the soil, groundwater, and soil gas laboratory analytical results are provided in Tables 3-1, 3-2, and 3-3 respectively. Copies of laboratory analytical data are provided in Appendix B.

3.1 Subsurface Conditions

Based on observations made during soil boring advancement, the Site is underlain by fine to medium sand, silt, and gravel. Varying amounts of clay are present from approximately 5 to 12 feet below ground surface on the eastern portion of the Site based on soils observed in TRC-3 and TRC-4. Refusal was encountered in dense soils at TRC-1, resulting in the monitoring well at that location being set at 16.5 feet below ground surface.

During groundwater sampling activities on January 21, 2014, TRC gauged the newly-installed on-Site wells. Groundwater depths from the top of the PVC well riser ranged from approximately 6.80 feet at TRC-4 adjacent to the Site building to approximately 10.63 feet at TRC-2 below the Site parking lot. NAPL was not detected during groundwater sampling activities. Due to time constraints, a relative groundwater elevation survey was not conducted at the Site. Based on local topography and a review of prior reports, the direction of shallow groundwater flow is towards the east.

3.2 Soil Analytical Results

Laboratory analytical results of soil samples collected from the Site were compared to MCP RCS-1 soil criteria, and Method 1 S-1/GW-2, S-1/GW-3, S-2/GW-2, and S-2/GW-3 cleanup standards. A summary of the soil analytical results from the soil samples collected at the Site is presented in Table 3-1. Copies of the associated laboratory analytical reports are provided in Appendix B. Where duplicate samples were collected or multiple exceedances were detected for a given compound, the higher result is discussed below.

Four EPH constituents were detected above their respective RCS-1 and Method 1 S-1/GW-2 and S-1/GW-3 standards in Site soil:

- Benzo(a)anthracene in sample TRC-3 (0-8/10') – 15 mg/kg
- Benzo(b)fluoranthene in sample TRC-3 (0-8/10') – 14 mg/kg
- Dibenz(a,h)anthracene in sample TRC-3 (0-8/10') – 1.4 mg/kg

One EPH constituent was also detected above Method 1 S-2/GW-2 and S-2/GW-3 standards in addition to RCS-1 and S-1/GW-2 and S-1/GW-3 standards:

- Benzo(a)pyrene in sample TRC-3 (8-10/10') - 11 mg/kg

Two metals were detected above their respective RCS-1 and Method 1 S-1/GW-2 and S-1/GW-3 standards in Site soil:

- Chromium in sample TRC-4 (0-8/8') – 51 mg/kg
- Nickel in sample TRC-4 (0-8/8') – 32 mg/kg

One metal was also detected above Method 1 S-2/GW-2 and S-2/GW-3 standards in addition to RCS-1 and S-1/GW-2 and S-1/GW-3 standards:

- Lead in sample TRC-1 (0-8/11') – 800 mg/kg

Other VOC and EPH constituents, as well as various metals, were identified above laboratory reporting limits but below RCS-1 and Method 1 S-1/GW-2, S-1/GW-3, S-2/GW-2, and S-2/GW-3 cleanup standards.

3.3 Groundwater Analytical Results

Laboratory analytical results of groundwater samples collected from the Site were compared to MCP RCGW-2 reporting criteria, and GW-2 and GW-3 cleanup standards. Sample results were compared to the proposed 2013 MassDEP standards in anticipation of their implementation. In several instances, proposed criteria for GW-2 and GW-3 vary from past years. A summary of laboratory analytical data for groundwater, as well as comparison of proposed 2013 MassDEP standards to previous values, is provided as Table 3-2. Laboratory analytical reports are provided in Appendix B.

- Two VOC constituents were detected above MCP RCGW-2 and current Method 1 GW-2 standards:
 - Tetrachloroethylene in sample TRC-1 – 130 µg/L

Due to the proposed lowering of the GW-2 cleanup standard for trichloroethylene from 30 µg/L to the proposed 2013 MassDEP standard of 5 µg/L, the 12 µg/L concentration of trichloroethylene found in TRC-1 would be subject to GW-2 cleanup requirements.

Lead was detected in the unfiltered sample of TRC-1 above RCGW-2 and GW-2 standards at a concentration of 14 µg/L. A filtered lead sample was submitted to the laboratory. This sample was also analyzed for dissolved lead and results will be provided as an update to this report when available.

3.4 Soil Gas Analytical Results

Laboratory analytical results for the soil gas sample were compared to MassDEP soil gas screening levels as established in MassDEP's Vapor Intrusion Guidance Document dated December 2011. Soil gas sample SG-1 was analyzed for VOCs via EPA Method TO-15. Several constituents were detected above laboratory detection limits but did not exceed

residential screening levels. PCE was detected in sample SG-1 at a concentration of 360 $\mu\text{g}/\text{m}^3$, which is in excess of both residential and commercial/industrial screening levels. Soil gas laboratory analytical results are summarized in Table 3-3. Laboratory analytical reports are provided in Appendix B.

3.5 Data Usability Assessment

The data associated with soil samples collected on January 20, 2014, groundwater samples collected on January 21, 2014 and one soil gas sample collected on January 20, 2014 were reviewed. In general, the data are usable for MCP decisions based on a review of accuracy, precision, and sensitivity of the data. Although there were select quality control (QC) nonconformances, the data are valid as reported and may be used for decision-making purposes with the following caution.

- Caution should be used with the vinyl chloride results in all groundwater samples due to low recoveries in the LCS and LCS Duplicate analyses. The nondetect results for vinyl chloride in these samples are equivalent to the project action level and therefore the decision-making process may be affected by the low bias. Caution should be used with these results as the actual results could be above the quantitation limits and thus above the project action levels.

A copy of the Data Usability Assessment is provided in Appendix C.

Table 3-1 - Summary of Analytical Results for Soil Samples -- January 2014
163 Glen Street
Somerville, Massachusetts

Analysis	Analyte	Sample ID:					TRC-1	TRC-2	TRC-3		TRC-4
		Sample Depth (ft.):*					0-8/11	0-8/11	0-8/10	0-8/10	0-8/8
		Sample Date:					1/20/2014	1/20/2014	1/20/2014	1/20/2014	1/20/2014
		S-1/GW-2	S-1/GW-3	S-2/GW-2	S-2/GW-3	RCS-1				Field Dup	
VOCs											
(mg/kg)	Acetone	50	400	50	400	6	0.044 U	0.063 U	0.055 U	0.054 U	0.079 U
	tert-Amyl Methyl Ether (TAME)	NS	NS	NS	NS	NS	0.00044 U	0.00063 U	0.00055 U	0.00054 U	0.00079 U
	Benzene	30	30	200	200	2	0.00087 U	0.0013 U	0.0011 U	0.0011 U	0.0016 U
	Bromobenzene	NS	NS	NS	NS	100	0.00087 U	0.0013 U	0.0011 U	0.0011 U	0.0016 U
	Bromochloromethane	NS	NS	NS	NS	NS	0.00087 U	0.0013 U	0.0011 U	0.0011 U	0.0016 U
	Bromodichloromethane	0.1	20	0.1	100	0.1	0.00087 U	0.0013 U	0.0011 U	0.0011 U	0.0016 U
	Bromoform	1	200	1	800	0.1	0.00087 U	0.0013 U	0.0011 U	0.0011 U	0.0016 U
	Bromomethane	0.5	30	0.5	30	0.5	0.0044 U	0.0063 U	0.0055 U	0.0054 U	0.0079 U
	2-Butanone (MEK)	50	400	50	400	4	0.017 U	0.025 U	0.022 U	0.021 U	0.032 U
	n-Butylbenzene	100 ⁽¹⁾	100 ⁽¹⁾	500 ⁽¹⁾	500 ⁽¹⁾	100 ⁽¹⁾	0.0017 U	0.0025 U	0.0022 U	0.0021 U	0.0032 U
	sec-Butylbenzene	100 ⁽¹⁾	100 ⁽¹⁾	500 ⁽¹⁾	500 ⁽¹⁾	100 ⁽¹⁾	0.00087 U	0.0013 U	0.0011 U	0.0011 U	0.0016 U
	tert-Butylbenzene	100 ⁽¹⁾	100 ⁽¹⁾	500 ⁽¹⁾	500 ⁽¹⁾	100 ⁽¹⁾	0.0017 U	0.0025 U	0.0022 U	0.0021 U	0.0032 U
	tert-Butyl Ethyl Ether (TBEE)	NS	NS	NS	NS	NS	0.00044 U	0.00063 U	0.00055 U	0.00054 U	0.00079 U
	Carbon Disulfide	NS	NS	NS	NS	100	0.0026 U	0.0038 U	0.0033 U	0.0032 U	0.0047 U
	Carbon Tetrachloride	5	10	5	60	5	0.00087 U	0.0013 U	0.0011 U	0.0011 U	0.0016 U
	Chlorobenzene	3	100	3	100	1	0.00087 U	0.0013 U	0.0011 U	0.0011 U	0.0016 U
	Chlorodibromomethane	0.03	20	0.03	100	0.005	0.00044 U	0.00063 U	0.00055 U	0.00054 U	0.00079 U
	Chloroethane	NS	NS	NS	NS	100	0.0044 U	0.0063 U	0.0055 U	0.0054 U	0.0079 U
	Chloroform	0.3	400	0.3	800	0.3	0.0017 U	0.0025 U	0.0022 U	0.0021 U	0.0032 U
	Chloromethane	NS	NS	NS	NS	100	0.0044 U	0.0063 U	0.0055 U	0.0054 U	0.0079 U
	2-Chlorotoluene	NS	NS	NS	NS	100	0.00087 U	0.0013 U	0.0011 U	0.0011 U	0.0016 U
	4-Chlorotoluene	NS	NS	NS	NS	100	0.00087 U	0.0013 U	0.0011 U	0.0011 U	0.0016 U
	1,2-Dibromo-3-chloropropane (DBCP)	NS	NS	NS	NS	10	0.0044 U	0.0063 U	0.0055 U	0.0054 U	0.0079 U
	1,2-Dibromoethane (EDB)	0.1	0.7	0.1	4	0.1	0.00044 U	0.00063 U	0.00055 U	0.00054 U	0.00079 U
	Dibromomethane	NS	NS	NS	NS	500	0.00087 U	0.0013 U	0.0011 U	0.0011 U	0.0016 U
	1,2-Dichlorobenzene	30	300	30	300	9	0.00087 U	0.0013 U	0.0011 U	0.0011 U	0.0016 U
	1,3-Dichlorobenzene	40	100	40	500	1	0.00087 U	0.0013 U	0.0011 U	0.0011 U	0.0016 U
	1,4-Dichlorobenzene	4	50	4	300	0.7	0.00087 U	0.0013 U	0.0011 U	0.0011 U	0.0016 U
	Dichlorodifluoromethane (Freon 12)	NS	NS	NS	NS	1,000	0.0044 U	0.0063 U	0.0055 U	0.0054 U	0.0079 U
	1,1-Dichloroethane	5	500	5	1,000	0.4	0.00087 U	0.0013 U	0.0011 U	0.0011 U	0.0016 U
	1,2-Dichloroethane	0.1	10	0.1	90	0.1	0.00087 U	0.0013 U	0.0011 U	0.0011 U	0.0016 U
	1,1-Dichloroethylene	40	500	40	1000	3	0.0017 U	0.0025 U	0.0022 U	0.0021 U	0.0032 U
	cis-1,2-Dichloroethylene	0.4	100	0.4	500	0.3	0.00087 U	0.0013 U	0.0011 U	0.0011 U	0.0016 U
	trans-1,2-Dichloroethylene	1	500	1	1000	1	0.00087 U	0.0013 U	0.0011 U	0.0011 U	0.0016 U
	1,2-Dichloropropane	0.1	10	0.1	100	0.1	0.00087 U	0.0013 U	0.0011 U	0.0011 U	0.0016 U
	1,3-Dichloropropane	NS	NS	NS	NS	500	0.00044 U	0.00063 U	0.00055 U	0.00054 U	0.00079 U
	2,2-Dichloropropane	NS	NS	NS	NS	0.1 ⁽³⁾	0.0044 U	0.0063 U	0.0055 U	0.0054 U	0.0079 U
	1,1-Dichloropropene	NS	NS	NS	NS	0.01 ⁽⁴⁾	0.00087 U	0.0013 U	0.0011 U	0.0011 U	0.0016 U
	cis-1,3-Dichloropropene	0.4 ⁽²⁾	9 ⁽²⁾	0.4 ⁽²⁾	70 ⁽²⁾	0.01 ⁽²⁾	0.00044 U	0.00063 U	0.00055 U	0.00054 U	0.00079 U
	trans-1,3-Dichloropropene	0.4 ⁽²⁾	9 ⁽²⁾	0.4 ⁽²⁾	70 ⁽²⁾	0.01 ⁽²⁾	0.0017 U	0.0025 U	0.0022 U	0.0021 U	0.0032 U
	Diethyl Ether	NS	NS	NS	NS	100	0.0044 U	0.0063 U	0.0055 U	0.0054 U	0.0079 U

Table 3-1 - Summary of Analytical Results for Soil Samples -- January 2014
163 Glen Street
Somerville, Massachusetts

Analysis	Analyte	Sample ID: Sample Depth (ft.):* Sample Date:					TRC-1 0-8/11 1/20/2014	TRC-2 0-8/11 1/20/2014	TRC-3 0-8/10 1/20/2014 Field Dup		TRC-4 0-8/8 1/20/2014
		S-1/GW-2	S-1/GW-3	S-2/GW-2	S-2/GW-3	RCS-1					
	Diisopropyl Ether (DIPE)	NS	NS	NS	NS	100	0.00044 U	0.00063 U	0.00055 U	0.00054 U	0.00079 U
	1,4-Dioxane	6	70	6	500	0.2	0.044 U	0.063 U	0.055 U	0.054 U	0.079 U
	Ethylbenzene	500	500	1,000	1,000	40	0.00087 U	0.0013 U	0.0011 U	0.0011 U	0.0016 U
	Hexachlorobutadiene	6	6	90	90	6	0.0017 U	0.0025 U	0.0022 U	0.0021 U	0.0032 U
	2-Hexanone (MBK)	NS	NS	NS	NS	100	0.0087 U	0.013 U	0.011 U	0.011 U	0.016 U
	Isopropylbenzene (Cumene)	100 ⁽¹⁾	100 ⁽¹⁾	500 ⁽¹⁾	500 ⁽¹⁾	1,000	0.00087 U	0.0013 U	0.0011 U	0.0011 U	0.0016 U
	p-Isopropyltoluene (p-Cymene)	100 ⁽¹⁾	100 ⁽¹⁾	500 ⁽¹⁾	500 ⁽¹⁾	100 ⁽¹⁾	0.00087 U	0.0013 U	0.0011 U	0.0011 U	0.0016 U
	Methyl tert-Butyl Ether (MTBE)	100	100	100	500	0.1	0.0017 U	0.0025 U	0.0022 U	0.0021 U	0.0032 U
	Methylene Chloride	20	200	20	900	0.1	0.0044 U	0.0063 U	0.0055 U	0.0054 U	0.0079 U
	4-Methyl-2-pentanone (MIBK)	50	400	50	400	0.4	0.0087 U	0.013 U	0.011 U	0.011 U	0.016 U
	Naphthalene	40	500	40	1,000	4	0.0044 U	0.0063 U	0.079	0.049	0.0079 U
	n-Propylbenzene	100 ⁽¹⁾	100 ⁽¹⁾	500 ⁽¹⁾	500 ⁽¹⁾	100	0.00087 U	0.0013 U	0.0011 U	0.0011 U	0.0016 U
	Styrene	4	30	4	200	3	0.00087 U	0.0013 U	0.0011 U	0.0011 U	0.0016 U
	1,1,1,2-Tetrachloroethane	0.1	7	0.1	100	0.1	0.00087 U	0.0013 U	0.0011 U	0.0011 U	0.0016 U
	1,1,2,2-Tetrachloroethane	0.02	0.8	0.02	10	0.005	0.00044 U	0.00063 U	0.00055 U	0.00054 U	0.00079 U
	Tetrachloroethylene	10	30	10	200	1	0.0019	0.0013 U	0.0057	0.0015	0.0016 U
	Tetrahydrofuran	NS	NS	NS	NS	500	0.0044 U	0.0063 U	0.0055 U	0.0054 U	0.0079 U
	Toluene	500	500	1,000	1,000	30	0.00087 U	0.0013 U	0.0011 U	0.0011 U	0.0016 U
	1,2,3-Trichlorobenzene	NS	NS	NS	NS	NS	0.0044 U	0.0063 U	0.0055 U	0.0054 U	0.0079 U
	1,2,4-Trichlorobenzene	70	500	70	900	2	0.0044 U	0.0063 U	0.0055 U	0.0054 U	0.0079 U
	1,1,1-Trichloroethane	500	500	600	1,000	30	0.00087 U	0.0013 U	0.0011 U	0.0011 U	0.0016 U
	1,1,2-Trichloroethane	2	4	2	60	0.1	0.00087 U	0.0013 U	0.0011 U	0.0011 U	0.0016 U
	Trichloroethylene	2	90	2	700	0.3	0.00087 U	0.0013 U	0.0011 U	0.0011 U	0.0016 U
	Trichlorofluoromethane (Freon 11)	NS	NS	NS	NS	1,000	0.0044 U	0.0063 U	0.0055 U	0.0054 U	0.0079 U
	1,2,3-Trichloropropane	NS	NS	NS	NS	100	0.00087 U	0.0013 U	0.0011 U	0.0011 U	0.0016 U
	1,2,4-Trimethylbenzene	100 ⁽¹⁾	100 ⁽¹⁾	500 ⁽¹⁾	500 ⁽¹⁾	1,000	0.00087 U	0.0013 U	0.0011 U	0.0011 U	0.0016 U
	1,3,5-Trimethylbenzene	100 ⁽¹⁾	100 ⁽¹⁾	500 ⁽¹⁾	500 ⁽¹⁾	10	0.00087 U	0.0013 U	0.0011 U	0.0011 U	0.0016 U
	Vinyl Chloride	0.6	0.6	0.7	4	0.6	0.0044 U	0.0063 U	0.0055 U	0.0054 U	0.0079 U
	m+p Xylene	300	500	300	1,000	300	0.0017 U	0.0025 U	0.0022 U	0.0021 U	0.0032 U
	o-Xylene	300	500	300	1,000	300	0.00087 U	0.0013 U	0.0011 U	0.0011 U	0.0016 U
EPH (mg/kg)											
	C9-C18 Aliphatics	1,000	1,000	3,000	3,000	1,000	11 U	340	14	13	13 U
	C19-C36 Aliphatics	3,000	3,000	5,000	5,000	3,000	44	73	170	110	13 U
	C11-C22 Aromatics	1,000	1,000	3,000	3,000	1,000	65	81	620	600	14
PAHs (mg/kg)											
	Acenaphthene	1,000	1,000	3,000	3,000	4	0.19 U	0.20 U	5.5	6.1	0.22 U
	Acenaphthylene	600	10	600	10	1	0.19 U	0.20 U	0.43	0.53	0.22 U
	Anthracene	1,000	1,000	3,000	3,000	1,000	0.58	0.20 U	15	14	0.22 U
	Benzo(a)anthracene	7	7	40	40	7	1.6	0.48	15	14	0.22 U
	Benzo(a)pyrene	2	2	4	4	2	1.6	0.85	11	11	0.22 U
	Benzo(b)fluoranthene	7	7	40	40	7	1.9	1.1	14	13	0.22 U
	Benzo(g,h,i)perylene	1,000	1,000	3,000	3,000	1,000	0.73	0.55	4.1	4.7	0.22 U

Table 3-1 - Summary of Analytical Results for Soil Samples -- January 2014
163 Glen Street
Somerville, Massachusetts

Analysis	Analyte	Sample ID: Sample Depth (ft.):* Sample Date:					TRC-1 0-8/11 1/20/2014	TRC-2 0-8/11 1/20/2014	TRC-3 0-8/10 1/20/2014 0-8/10 1/20/2014 Field Dup		TRC-4 0-8/8 1/20/2014
		S-1/GW-2	S-1/GW-3	S-2/GW-2	S-2/GW-3	RCS-1					
	Benzo(k)fluoranthene	70	70	400	400	70	0.86	0.39	6.3	6.1	0.22 U
	Chrysene	70	70	400	400	70	1.7	0.60	13	12	0.22 U
	Dibenz(a,h)anthracene	0.7	0.7	4	4	0.7	0.21	0.20 U	1.1	1.4	0.22 U
	Fluoranthene	1,000	1,000	3,000	3,000	1,000	3.3	0.80	25	37	0.22 U
	Fluorene	1,000	1,000	3,000	3,000	1,000	0.19 U	0.20 U	6.7	6.6	0.22 U
	Indeno(1,2,3-cd)pyrene	7	7	40	40	7	0.72	0.55	4.6	5.1	0.22 U
	2-Methylnaphthalene	80	300	80	500	0.7	0.19 U	0.23	2.9	3.6	0.22 U
	Naphthalene	40	500	40	1,000	4	0.19 U	0.20 U	5.7	5.8	0.22 U
	Phenanthrene	500	500	1,000	1,000	10	2.2	0.38	47	44	0.22 U
	Pyrene	1,000	1,000	3,000	3,000	1,000	2.1	0.99	30	27	0.22 U
Metals, total											
(mg/kg)	Antimony	20	20	30	30	20	2.7 U	2.7 U	2.9 U	2.8 U	3.3 U
	Arsenic	20	20	20	20	20	3.2	2.8	2.9 U	2.8 U	9.8
	Barium	1,000	1,000	3,000	3,000	1,000	150	73	52	76	110
	Beryllium	100	100	200	200	100	0.27 U	0.27 U	0.29 U	0.28 U	0.33 U
	Cadmium	2	2	30	30	2	0.69	0.91	0.60	0.56	1.2
	Chromium	30	30	200	200	30	15	27	9.0	12	51
	Lead	300	300	300	300	300	800	87	130	210	27
	Mercury	20	20	30	30	20	0.075	0.15	0.046	0.059	0.039
	Nickel	20	20	700	700	20	12	18	10	12	32
	Selenium	400	400	800	800	400	5.4 U	5.4 U	5.8 U	5.5 U	6.5 U
	Silver	100	100	200	200	100	0.54 U	0.54 U	0.58 U	0.55 U	0.65 U
	Thallium	8	8	60	60	8	2.7 U	2.7 U	2.9 U	2.8 U	6.5 U
	Vanadium	600	600	1000	1000	600	30	42	27	29	74
	Zinc	2,500	2,500	3,000	3,000	2,500	100	190	89	85	89

Notes:

mg/kg - milligrams per kilogram (dry weight) or parts per million (ppm).

NA - Sample not analyzed for the listed analyte.

NS - No MassDEP standards exist for this analyte.

U - Compound was not detected at specified quantitation limit.

Values in **Bold** indicate the compound was detected.

Values shown in Bold and shaded type exceed one or more of the listed MassDEP Method 1 standards.

VOCs - Volatile Organic Compounds.

EPH - Extractable Petroleum Hydrocarbons.

PAHs - Polynuclear Aromatic Hydrocarbons.

RC - Reportable concentration.

* - Sample depth for (EPH & Metals)/VOCs analysis.

(1) - MassDEP Method 1 standards and RC for C9-C10 aromatic hydrocarbons used.

(2) - MassDEP Method 1 standards and RC for 1,3-Dichloropropene used.

(3) - MassDEP RC for Dichloropropane used.

(4) - MassDEP RC for Dichloropropene used.

Table 3-2 - Summary of Analytical Results for Groundwater Samples -- January 2014
163 Glen Street
Somerville, Massachusetts

Analysis	Analyte	Sample ID: Sample Date:					TRC-1	TRC-2	TRC-3		TRC-4
		GW-2	GW-3	RCGW-2	GW-2*	GW-3*	1/21/2014	1/21/2014	1/21/2014	1/21/2014 Field Dup	1/21/2014
VOCs (ug/L)	Acetone	50,000	50,000	50,000	50,000	50,000	10 U	10 U	10 U	10 U	10 U
	tert-Amyl Methyl Ether (TAME)	NS	NS	NS	NS	NS	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U
	Benzene	2,000	10,000	2,000	1,000	10,000	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	Bromobenzene	NS	NS	10,000	NS	NS	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	Bromochloromethane	NS	NS	NS	NS	NS	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	Bromodichloromethane	6	50,000	6	6	50,000	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	Bromoform	700	50,000	700	700	50,000	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	Bromomethane	7	800	7	7	800	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
	2-Butanone (MEK)	50,000	50,000	50,000	50,000	50,000	10 U	10 U	10 U	10 U	10 U
	n-Butylbenzene	7,000 ⁽¹⁾	50,000 ⁽¹⁾	7,000 ⁽¹⁾	4,000 ⁽¹⁾	50,000 ⁽¹⁾	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	sec-Butylbenzene	7,000 ⁽¹⁾	50,000 ⁽¹⁾	7,000 ⁽¹⁾	4,000 ⁽¹⁾	50,000 ⁽¹⁾	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	tert-Butylbenzene	7,000 ⁽¹⁾	50,000 ⁽¹⁾	10,000	4,000 ⁽¹⁾	50,000 ⁽¹⁾	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	tert-Butyl Ethyl Ether (TBEE)	NS	NS	NS	NS	NS	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U
	Carbon Disulfide	NS	NS	10,000	NS	NS	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
	Carbon Tetrachloride	2	5,000	2	2	5,000	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	Chlorobenzene	200	1,000	200	200	1,000	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	Chlorodibromomethane	20	50,000	20	20	50,000	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U
	Chloroethane	NS	NS	10,000	NS	NS	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
	Chloroform	50	20,000	20,000	50	20,000	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
	Chloromethane	NS	NS	10,000	NS	NS	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
	2-Chlorotoluene	NS	NS	10,000	NS	NS	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	4-Chlorotoluene	NS	NS	NS	NS	NS	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	1,2-Dibromo-3-chloropropane (DBCP)	NS	NS	10,000	NS	NS	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
	1,2-Dibromoethane (EDB)	2	50,000	2	2	50,000	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U
	Dibromomethane	NS	NS	50,000	NS	NS	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	1,2-Dichlorobenzene	2,000	2,000	2,000	8,000	2,000	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	1,3-Dichlorobenzene	2,000	50,000	2,000	6,000	50,000	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	1,4-Dichlorobenzene	200	8,000	200	60	8,000	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	Dichlorodifluoromethane (Freon 12)	NS	NS	100,000	NS	NS	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
	1,1-Dichloroethane	1,000	20,000	1,000	2,000	20,000	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	1,2-Dichloroethane	5	20,000	5	5	20,000	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
	1,1-Dichloroethylene	80	30,000	80	80	30,000	3.7	1.5	2.8	2.5	24
	cis-1,2-Dichloroethylene	100	50,000	100	20	50,000	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	trans-1,2-Dichloroethylene	90	50,000	90	80	50,000	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	1,2-Dichloropropane	3	50,000	3	3	50,000	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	1,3-Dichloropropane	NS	NS	50,000	NS	NS	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U
	2,2-Dichloropropane	NS	NS	9 ⁽³⁾	NS	NS	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	1,1-Dichloropropene	NS	NS	5 ⁽⁴⁾	NS	NS	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U
	cis-1,3-Dichloropropene	10 ⁽²⁾	200 ⁽²⁾	10 ⁽²⁾	10 ⁽²⁾	200 ⁽²⁾	0.40 U	0.40 U	0.40 U	0.40 U	0.40 U
	trans-1,3-Dichloropropene	10 ⁽²⁾	200 ⁽²⁾	10 ⁽²⁾	10 ⁽²⁾	200 ⁽²⁾	0.40 U	0.40 U	0.40 U	0.40 U	0.40 U
	Diethyl Ether	NS	NS	10,000	NS	NS	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
	Diisopropyl Ether (DIPE)	NS	NS	10,000	NS	NS	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U

Table 3-2 - Summary of Analytical Results for Groundwater Samples -- January 2014
163 Glen Street
Somerville, Massachusetts

Analysis	Analyte	Sample ID: Sample Date:					TRC-1 1/21/2014	TRC-2 1/21/2014	TRC-3		TRC-4 1/21/2014
		GW-2	GW-3	RCGW-2	GW-2*	GW-3*			1/21/2014	1/21/2014 Field Dup	
	1,4-Dioxane	6,000	50,000	6,000	6,000	50,000	50 U	50 U	50 U	50 U	50 U
	Ethylbenzene	20,000	5,000	5,000	20,000	5,000	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	Hexachlorobutadiene	1	3,000	1	50	3,000	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U
	2-Hexanone (MBK)	NS	NS	10,000	NS	NS	10 U	10 U	10 U	10 U	10 U
	Isopropylbenzene (Cumene)	7,000 ⁽¹⁾	50,000 ⁽¹⁾	100,000	4,000 ⁽¹⁾	50,000 ⁽¹⁾	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	p-Isopropyltoluene (p-Cymene)	7,000 ⁽¹⁾	50,000 ⁽¹⁾	10,000	4,000 ⁽¹⁾	50,000 ⁽¹⁾	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	Methyl tert-Butyl Ether (MTBE)	50,000	50,000	5,000	50,000	50,000	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	Methylene Chloride	10,000	50,000	10,000	2,000	50,000	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
	4-Methyl-2-pentanone (MIBK)	50,000	50,000	50,000	50,000	50,000	10 U	10 U	10 U	10 U	10 U
	Naphthalene	1,000	20,000	1,000	700	20,000	2.0 U	2.0 U	20	21	2.0 U
	n-Propylbenzene	7,000 ⁽¹⁾	50,000 ⁽¹⁾	10,000	4,000 ⁽¹⁾	50,000 ⁽¹⁾	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	Styrene	100	6,000	100	100	6,000	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	1,1,1,2-Tetrachloroethane	10	50,000	10	10	50,000	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	1,1,2,2-Tetrachloroethane	9	50,000	9	9	50,000	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U
	Tetrachloroethylene	50	30,000	50	20	30,000	130	39	17	15	32
	Tetrahydrofuran	NS	NS	50,000	NS	NS	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
	Toluene	50,000	40,000	40,000	50,000	40,000	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	1,2,3-Trichlorobenzene	NS	NS	NS	NS	NS	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
	1,2,4-Trichlorobenzene	2,000	50,000	2,000	200	50,000	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	1,1,1-Trichloroethane	4,000	20,000	4,000	4,000	20,000	5.2	2.6	1.6	1.4	8.1
	1,1,2-Trichloroethane	900	50,000	900	900	50,000	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	Trichloroethylene	30	5,000	30	5	5,000	12	2.2	1.2	1.0	3.8
	Trichlorofluoromethane (Freon 11)	NS	NS	100,000	NS	NS	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
	1,2,3-Trichloropropane	NS	NS	10,000	NS	NS	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
	1,2,4-Trimethylbenzene	7,000 ⁽¹⁾	50,000 ⁽¹⁾	100,000	4,000 ⁽¹⁾	50,000 ⁽¹⁾	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	1,3,5-Trimethylbenzene	7,000 ⁽¹⁾	50,000 ⁽¹⁾	1,000	4,000 ⁽¹⁾	50,000 ⁽¹⁾	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	Vinyl Chloride	2	50,000	2	2	50,000	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
	m+p Xylene	9,000	5,000	5,000	3,000	5,000	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
	o-Xylene	9,000	5,000	5,000	3,000	5,000	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
EPH (ug/L)	C9-C18 Aliphatics	5,000	50,000	5,000	5,000	50,000	100 U	100 U	100 U	100 U	100 U
	C19-C36 Aliphatics	NS	50,000	50,000	NS	50,000	100 U	100 U	100 U	100 U	100 U
	C11-C22 Aromatics	50,000	5,000	5,000	50,000	5,000	100 U	100 U	130	170	100 U
PAHs (ug/L)	Acenaphthene	NS	6,000	6,000	NS	10,000	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
	Acenaphthylene	10,000	40	40	10,000	40	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
	Anthracene	NS	30	30	NS	30	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
	Benzo(a)anthracene	NS	1,000	1,000	NS	1,000	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
	Benzo(a)pyrene	NS	500	500	NS	500	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
	Benzo(b)fluoranthene	NS	400	400	NS	400	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
	Benzo(g,h,i)perylene	NS	20	20	NS	20	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
	Benzo(k)fluoranthene	NS	100	100	NS	100	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
	Chrysene	NS	70	70	NS	70	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U

Table 3-2 - Summary of Analytical Results for Groundwater Samples -- January 2014
163 Glen Street
Somerville, Massachusetts

Analysis	Analyte	Sample ID: Sample Date:					TRC-1 1/21/2014	TRC-2 1/21/2014	TRC-3		TRC-4 1/21/2014
		GW-2	GW-3	RCGW-2	GW-2*	GW-3*			1/21/2014	1/21/2014 Field Dup	
	Dibenz(a,h)anthracene	NS	40	40	NS	40	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
	Fluoranthene	NS	200	200	NS	200	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
	Fluorene	NS	40	40	NS	40	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
	Indeno(1,2,3-cd)pyrene	NS	100	100	NS	100	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
	2-Methylnaphthalene	2,000	20,000	2,000	2,000	20,000	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
	Naphthalene	1,000	20,000	1,000	700	20,000	5.0 U	5.0 U	10	5.9	5.0 U
	Phenanthrene	NS	10,000	10,000	NS	10,000	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
	Pyrene	NS	20	20	NS	20	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Metals, total											
(ug/L)	Antimony	NS	8,000	8,000	NS	8,000	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	Arsenic	NS	900	900	NS	900	3.8	0.40 U	1.4	1.1	0.91
	Barium	NS	50,000	50,000	NS	50,000	140	87	89	93	100
	Beryllium	NS	200	200	NS	200	0.40 U	0.40 U	0.40 U	0.40 U	0.40 U
	Cadmium	NS	4	4	NS	4	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U
	Chromium	NS	300	300	NS	300	14	1.0 U	3.8	3.9	1.0 U
	Lead	NS	10	10	NS	10	14	1.0 U	9.3	8.5	1.0 U
	Mercury	NS	20	20	NS	20	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U
	Nickel	NS	200	200	NS	200	20	10	10	11	16
	Selenium	NS	100	100	NS	100	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
	Silver	NS	7	7	NS	7	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U
	Thallium	NS	3,000	3,000	NS	3,000	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
	Vanadium	NS	4,000	4,000	NS	4,000	18	5.0 U	5.0 U	5.0 U	5.0 U
	Zinc	NS	900	900	NS	800	33	10 U	15	15	10 U

Notes:

ug/L - micrograms per liter.

NS - No MassDEP standards exist for this analyte.

U - Compound was not detected at specified quantitation limit.

Values in **Bold** indicate the compound was detected.

Values shown in **Bold and shaded type** exceed one or more of the listed MassDEP Method 1 standards.

Values shown in **Bold and shaded type** exceed one or more of the proposed MassDEP Method 1 standards.

VOCs - Volatile Organic Compounds.

EPH - Extractable Petroleum Hydrocarbons.

PAHs - Polynuclear Aromatic Hydrocarbons.

RC - Reportable concentration.

(1) - MassDEP Method 1 standards for C9-C10 aromatic hydrocarbons used.

(2) - MassDEP Method 1 standards for 1,3-Dichloropropene used.

(3) - MassDEP RC for Dichloropropane used.

(4) - MassDEP RC for Dichloropropene used.

The Proposed value is lower than the previous value.

The Proposed value is higher than the previous value.

* - Proposed MassDEP standards, 2013.

Table 3-3 - Summary of Analytical Results for Soil Gas Samples -- January 2014
163 Glen Street
Somerville, Massachusetts

Analysis	Analyte	Sample ID: Sample Date:		SG-1 1/20/2014
		Screening Values*		
		Residential	Industrial/Commercial	
TO-15 (ug/m3)	Acetone	6,400	50,000	660
	Benzene	160	770	5.2
	Bromodichloromethane	9.1	46	0.67 U
	Bromoform	150	700	1.0 U
	Bromomethane	42	310	0.70
	2-Butanone (MEK)	840	310,000	24
	Carbon Tetrachloride	38	130	0.63 U
	Chlorobenzene	160	1,300	0.46 U
	Chloroform	130	210	0.49 U
	Dibromochloromethane	6.8	34	0.85 U
	1,2-Dibromoethane (EDB)	0.55	2.7	0.77 U
	1,2-Dichlorobenzene	50	13,000	0.60 U
	1,3-Dichlorobenzene	42	13,000	0.60 U
	1,4-Dichlorobenzene	35	120	0.60 U
	1,1-Dichloroethane	56	31,000	0.40 U
	1,2-Dichloroethane	6.3	31	0.40 U
	1,1-Dichloroethylene	56	13,000	0.40 U
	cis-1,2-Dichloroethylene	56	2,200	0.40 U
	trans-1,2-Dichloroethylene	56	4,300	0.40 U
	1,2-Dichloropropane	8.4	42	0.46 U
	cis-1,3-Dichloropropene	41	200	0.45 U
	trans-1,3-Dichloropropene	41	200	0.45 U
	1,4-Dioxane	40	200	3.6 U
	Ethylbenzene	520	62,000	9.2
	Hexachlorobutadiene	7.7	320	1.1 U
	Methyl tert-Butyl Ether (MTBE)	2,700	190,000	0.36 U
	Methylene Chloride	770	37,000	3.5 U
	4-Methyl-2-pentanone (MIBK)	150	190,000	1.4
	Naphthalene	42	190	0.52 U
	Styrene	98	1,400	0.43
	1,1,2,2-Tetrachloroethane	2.8	14	0.69 U
	Tetrachloroethylene	98	290	360
	Toluene	3,800	310,000	5.2
1,2,4-Trichlorobenzene	240	13,000	0.74 U	
1,1,1-Trichloroethane	210	320,000	39	
1,1,2-Trichloroethane	11	50	0.55 U	
Trichloroethylene	28	130	18	
Vinyl Chloride	19	91	0.26 U	
m&p-Xylene	1,400	6,200	33	
o-Xylene	1,400	6,200	11	

Notes:

ug/m3 - micrograms per cubic meter.

NS - No MassDEP Sub-slab Soil Gas Screening Values exist for this analyte.

U - Compound was not detected at specified quantitation limit.

Values in **Bold** indicate the compound was detected.

Values shown in Bold and shaded type exceed one or more of the listed MassDEP Sub-slab Soil Gas Screening Values.

TO - Toxic organics.

* - MassDEP, Sub-slab Soil Gas Screening Values, Vapor Intrusion Guidance - Interim Final, December 2011
with updated screening values from February 22 and March 7, 2013.

4.0 CONCLUSIONS

The following conclusions are based on the results of this Phase II ESA:

- **Overburden Geology** – Based on observations made during soil boring advancement, the Site is underlain by fine to medium sand, silt, and gravel. Varying amounts of clay are present from approximately 5 to 12 feet below ground surface on the eastern portion of the Site based on soils observed in TRC-3 and TRC-4. Refusal was encountered in dense soils at TRC-1, resulting in the monitoring well at that location being set at 16.5 feet below ground surface.
- **Groundwater Flow Direction and Depth** – During groundwater sampling activities on January 21, 2014, TRC gauged the newly-installed on-Site wells. Groundwater depths from the top of the PVC well riser ranged from approximately 6.80 feet at TRC-4 adjacent to the Site building to approximately 10.63 feet at TRC-2 below the Site parking lot. NAPL was not detected during groundwater sampling activities. Due to time constraints, a relative groundwater elevation survey was not conducted at the Site. Based on local topography and a review of prior reports, the direction of shallow groundwater flow is towards the east.
- **Soil Analytical Results** – Laboratory analytical results of soil samples collected from the Site were compared to MCP RCS-1 soil criteria, and Method 1 S-1/GW-2, S-1/GW-3, S-2/GW-2, and S-2/GW-3 cleanup standards. Where duplicate samples were collected or multiple exceedances were detected for a given compound, the higher result is discussed below.
 - Four EPH constituents were detected above their respective RCS-1 and Method 1 S-1/GW-2 and S-1/GW-3 standards in Site soil:
 - Benzo(a)anthracene in sample TRC-3 (0-8/10') – 15 mg/kg
 - Benzo(b)fluoranthene in sample TRC-3 (0-8/10') – 14 mg/kg
 - Dibenz(a,h)anthracene in sample TRC-3 (0-8/10') – 1.4 mg/kg
 - One EPH constituent was also detected above Method 1 S-2/GW-2 and S-2/GW-3 standards in addition to RCS-1 and S-1/GW-2 and S-1/GW-3 standards:
 - Benzo(a)pyrene in sample TRC-3 (8-10/10') - 11 mg/kg
 - Two metals were detected above their respective RCS-1 and Method 1 S-1/GW-2 and S-1/GW-3 standards in Site soil:
 - Chromium in sample TRC-4 (0-8/8') – 51 mg/kg
 - Nickel in sample TRC-4 (0-8/8') – 32 mg/kg

- One metal was also detected above Method 1 S-2/GW-2 and S-2/GW-3 standards in addition to RCS-1 and S-1/GW-2 and S-1/GW-3 standards:
 - Lead in sample TRC-1 (0-8/11') – 800 mg/kg
- Other VOC and EPH constituents, as well as various metals, were identified above laboratory reporting limits but below RCS-1 and Method 1 S-1/GW-2, S-1/GW-3, S-2/GW-2, and S-2/GW-3 cleanup standards.
- **Groundwater Analytical Results** – Laboratory analytical results of groundwater samples collected from the Site were compared to MCP RCGW-2 reporting criteria, and GW-2 and GW-3 cleanup standards. Samples were collected to the proposed 2013 MassDEP standards in anticipation of their implementation. In several instances, proposed criteria for GW-2 and GW-3 vary from past years.
 - Two VOC constituents were detected above MCP RCGW-2 and current Method 1 GW-2 standards:
 - Tetrachloroethylene in sample TRC-1 – 130 µg/L

Due to the lowering of the GW-2 cleanup standard for trichloroethylene from 30 µg/L to the proposed 2013 MassDEP standard of 5 µg/L, the 12 µg/L concentration of trichloroethylene found in TRC-1 is considered subject to GW-2 cleanup requirements.

Total lead was detected in the unfiltered sample of TRC-1 above RCGW-2 and GW-2 standards at a concentration of 14 µg/L. A filtered lead sample was submitted to the laboratory. This sample was also analyzed for dissolved lead and results will be provided as an update to this report when available.

- **Soil Gas Analytical Results** – Laboratory analytical results for the soil gas sample were compared to MassDEP Indoor Air Threshold Values (IATVs) as established in MassDEP's Vapor Intrusion Guidance Document dated December 2011. Soil gas sample SG-1 was analyzed for VOCs via EPA Method TO-15. Several constituents were detected above laboratory detection limits but did not exceed residential screening levels. Tetrachloroethylene was detected in sample SG-1 at a concentration of 360 µg/m³, which is in excess of both residential and commercial/industrial screening levels.
- **Regulatory Notification Obligations** - TRC recommends that MassDEP be notified of concentrations of the following constituents in soil and groundwater within 120-days of receipt of this report by a responsible party (e.g. owner, operator, etc.). All reporting obligations apply to the current standards and are not affected by proposed alterations to the GW-2 and GW-3 cleanup standards.

Soil exceedances:

- Benzo(a)anthracene (15 mg/kg)
- Benzo(b)fluoranthene (14 mg/kg)
- Dibenz(a,h)anthracene (1.4 mg/kg)
- Chromium (51 mg/kg)
- Nickel (32 mg/kg)
- Lead (800 mg/kg)

Groundwater exceedances:

- Total lead (10 µg/L)
- **Previously Identified RECs** - Six RECs were identified in TRC's January 2014 Phase I ESA regarding the potential for soil and groundwater contamination associated with past Site use, known and suspected on-Site USTs, and the nearby release associated with RTN 3-23246. The following summarizes findings pertinent to each REC:
 - REC #1 – No concentrations of PCE in soil were detected above RCS-1 or Method 1 cleanup standards in the top 11 feet of soil; therefore, **REC #1 is no longer considered a REC.**
 - REC #2 - The scope of TRC's Phase II investigation did not specifically address the 1,000-gallon No. 2 fuel oil UST located to the immediate west of the current Site building. During LSE's 2014 Limited Sub Surface Investigation, concentrations of VPH and EPH in soil collected below the bottom of the tank were found to be below RCS-1 and Method 1 cleanup standards. However, it is currently unknown whether this UST still contains product and due to limited data available near this UST and from areas immediately downgradient of the UST, **further investigation is warranted to evaluate if this condition is considered a REC.**
 - REC #3 – Petroleum impacts to soil and groundwater associated with the suspected abandoned UST believed to be located beneath the eastern portion of the current Site building were not found during this Phase II ESA suggesting **REC #3 is no longer considered a REC.**
 - REC #4 – Concentrations of VOC, EPH, PAH, and metals were not detected above RCS-1 criteria or Method 1 cleanup standards in TRC-2, located nearby to the former Site building housing the machine shop. However, due to a lack of soil and groundwater analytical data within the former building footprint where former machine shop operations occurred, **further investigation is warranted to evaluate if this condition is considered a REC.**
 - REC #5 – The current Site building was formerly used as an auto repair school and a DPW garage. Reportable concentrations of chromium and nickel were detected in the

soil sampled collected at TRC-4 adjacent to the building; however, additional samples were not able to be collected from within the building footprint. Due to a lack of additional analytical data within the building footprint, **further investigation is warranted to evaluate if this condition is considered a REC.**

- REC #6 – Urban fill materials were not readily identified during Site investigation activities. However the high PAHs and lead values indicate that there is urban fill on site. Therefore, **REC #6 is still considered a REC.**

5.0 LIMITATIONS

1. TRC's study was performed in accordance with generally accepted practices of other consultants undertaking similar studies at the same time and in the same geographical area, and TRC observed that degree of care and skill was generally exercised by other consultants under similar circumstances and conditions. TRC's findings and conclusions must be considered not as scientific certainties, but rather as professional opinion concerning the significance of the limited data gathered during the course of the study. No other warranty, express or implied, is made. Specifically, TRC does not and cannot represent that the subject property contains no hazardous material, oil, or other latent condition beyond that observed by TRC during its study. Additionally, TRC makes no warranty that any response action or recommended action will achieve all of its objectives or that the findings of this study will be upheld by a MassDEP audit.
2. This study and report have been prepared on behalf of and for the exclusive use of the **Somerville Community Corporation**, solely for use in a Phase II ESA for the 163 Glen Street property, located in Somerville, Massachusetts (subject property). This submittal and the findings contained herein shall not, in whole or in part, be disseminated or conveyed to any other party, nor used by any other party in whole or in part, without the prior written consent of TRC or Somerville Community Corporation.
3. The observations described in this report were made under the conditions stated therein. The conclusions presented in the report were based solely upon the services described therein, and not on scientific tasks or procedures beyond the scope of described services or the time and budgetary constraints imposed by Client. The work described in this report was carried out in accordance with the Terms and Conditions referenced in our proposal to the Client.
4. In the event that the Client or others authorized to use this report obtain information on environmental or hazardous waste issues at the subject property not contained in this report, such information shall be brought to TRC's attention forthwith. TRC will evaluate such information and, on the basis of this evaluation, may modify the conclusions stated in this report.
5. The purpose of this report was to further evaluate the Recognized Environmental Conditions (RECs) identified in the Phase I ESA and Phase II ESA performed at the subject property by TRC. No specific attempt was made to check on the compliance of present or past owners or operators of the Site with federal, state, or local laws and regulations, environmental or otherwise.

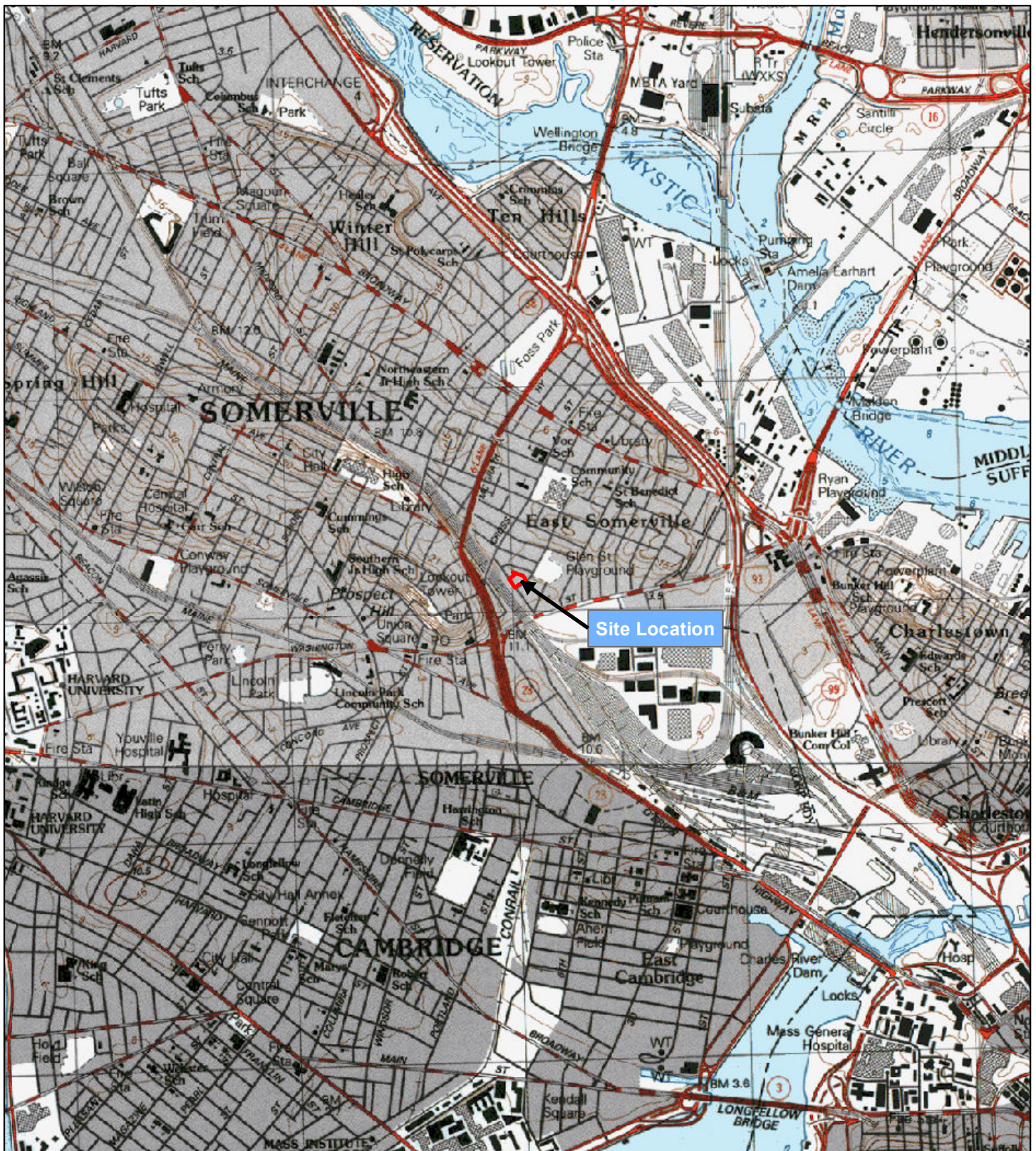
6.0 REFERENCES

Massachusetts Department of Environmental Protection (MassDEP), *Massachusetts Contingency Plan*, 310 CMR 40.0000, effective date, December 14, 2007.

TRC Environmental Corporation, *Phase I Environmental Site Assessment*, 163 Glen Street, Somerville, Massachusetts, January 2014.

Lake Shore Environmental, *Limited Sub Surface Investigation*, 163 Glen Street, Somerville, Massachusetts, January 2014.

FIGURES



Approximate Site Boundary

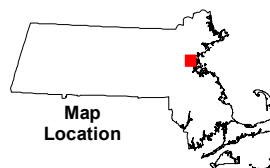
0 1,000 2,000

Feet



Wannalancit Mills
650 Suffolk Street
Lowell, MA 01854
978-970-5600

MASSACHUSETTS



Map
Location

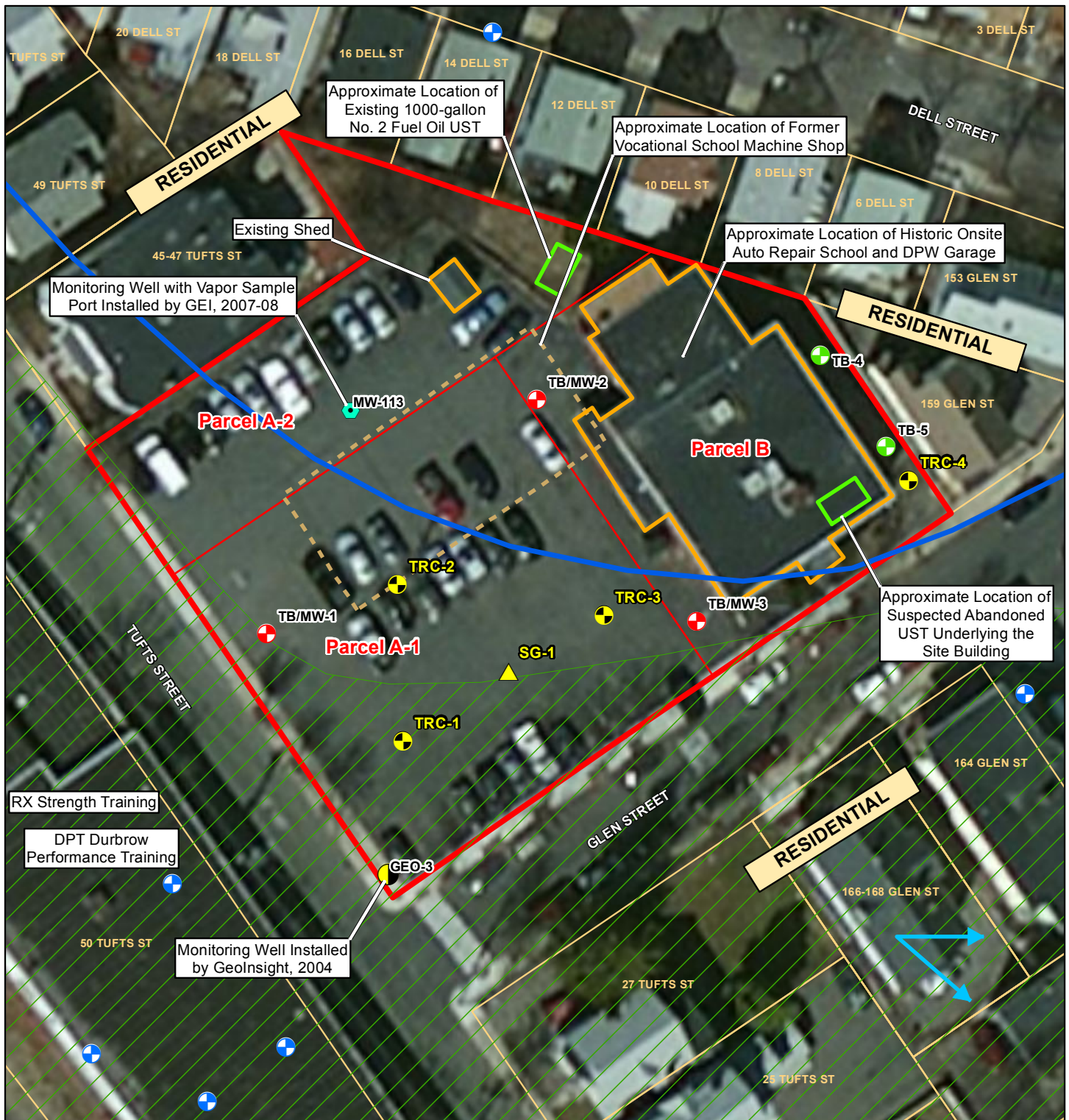
SITE LOCATION MAP

163 GLEN STREET
SOMERVILLE, MASSACHUSETTS

FIGURE 1

FEBRUARY 2014

Base Map: USGS 7.5 Minute Topographic Quadrangles:
Boston South(1987) and Boston North(1985).



- | | | | |
|--|--|--|--|
| | Approximate Site Boundary | | Onsite Monitoring Well Installed by TRC, 2014 |
| | Existing Site Structure | | Temporary Soil Gas Point Advanced by TRC, 2014 |
| | Former Site Structure | | Onsite Monitoring Well Installed by LSE, 2014 |
| | Underground Storage Tank | | Onsite Soil Boring Advanced by LSE, 2014 |
| | Disposal Site Boundary Associated with RTN 3-23246 | | Offsite Monitoring Well Installed by Others, 2002-2008 |
| | Extent of PCE Concentration in Groundwater Associated with RTN 3-23246 | | Estimated Groundwater Flow Direction |

NOTE: All locations are approximate.

Base Map: ESRI, 2013
Source Data: Parcels and Streets, MassGIS 2013;
Disposal Site and Boundary, GEI 2013; Sanborn Map, 1933.

0 20 40 Feet

MASSACHUSETTS



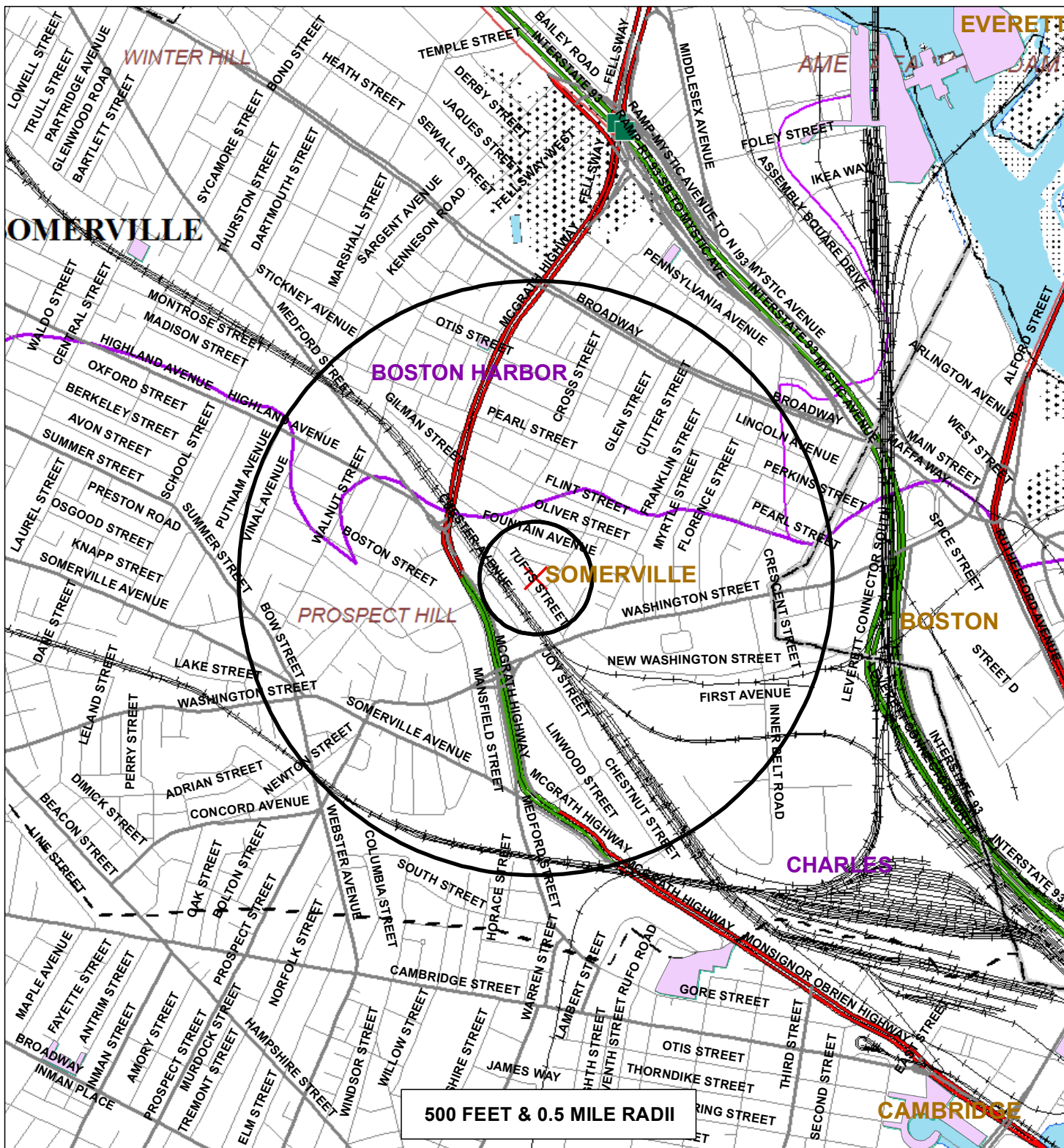
Wannalancit Mills
650 Suffolk Street
Lowell, MA 01854
978-970-5600

SITE PLAN

**163 GLEN STREET
SOMERVILLE, MASSACHUSETTS**

FIGURE 2

FEBRUARY 2014



Roads: Limited Access, Multi-Lane, Major/Minor, Track, Trail
 Railroad, Pipeline, Powerline
 Major Basin, Sub Basin, Perennial Stream, Intermittent Stream, Shoreline, Man made Shore, Dam, Aqueduct
 Wetland, Salt Wetland, Submerged Wetland, Open Water, Reservoir, Tidal Flat/Shoal
 Potentially Productive Aquifers: Medium, High Yield
 Non-Potential Drinking Water Source Area: Medium, High Yield
 EPA Sole Source Aquifer, FEMA 100 Yr. Floodplain, DEP Solid Waste Facility
 Approved Zone II, IWPA, Surface Water Supply Zone A
 Protected Open Space, ACEC
 Priority Habitat, Certified Vernal Pool
 Boundaries: County and Town
 Public Water Supplies: Ground, Surface, Non-Community (NTNC, TNC)



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FIGURE 3

MASSDEP PRIORITY RESOURCES MAP
 163 GLEN STREET
 SOMERVILLE, MASSACHUSETTS



0 500 1,000 1,500
 Feet

FEB
 2014

Source: MassGIS/EOEA

APPENDIX A

**SOIL BORING LOGS AND WELL CONSTRUCTION
DIAGRAMS**

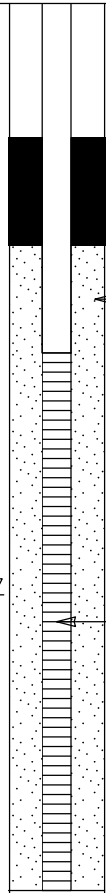


650 Suffolk Street
Lowell, MA
Telephone: 978-970-5600
Fax: 978-453-1995

BORING/WELL CONSTRUCTION LOG

CLIENT/PROJECT NUMBER 163 Glen Street/212867
BORING/WELL NUMBER TRC-1
TRC GEOLOGIST E. Wachtel
DRILLING CONTRACTOR/FOREMAN NEG/Maynor
DATE DRILLED 1/20/2014
LOCATION Approximately 43.5' N of GEO-3
SAMPLING METHOD Continuous- 60" Macrocore
DRILLING METHOD Direct Push-7822 DT
NOTES Sampled for VOC, EPH Carbon ranges, PAH, and MCP-14 Metals.

SCREEN TYPE/SLOT 2" Schedule 40 slotted PVC
FILTER PACK TYPE Sand Pack
SEAL TYPE Bentonite
DEPTH TO WATER (Approximate Feet) 11
TOTAL DEPTH (Feet) 19
GROUND ELEVATION (Feet) TBD
REFERENCE ELEVATION (Feet) TBD

DEPTH (ft. BGL)	BLOW COUNTS	PEN/REC (INCHES)	CORE #	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	Field Testing (ppm)	SAMPLE ID/ TIME	WELL DIAGRAM
1	NA	60/30	S-1		0-4" Crushed ASPHALT.	OS: 0.0 HS: 0.0		
2					4-22" Brown to tan fine to medium SAND, some angular gravel, some silt, wet (perched).			
3								
4					22-26" White-gray crushed CONCRETE.	OS: 0.0 HS: 0.0	TRC-1(0-8/11') 0915	
5		60/20	S-2		26-30" Brown fine SAND, SILT and angular GRAVEL with a peat-like texture.	OS: 0.0 HS: 0.0		
6					0-20" Tan fine to medium SAND, some angular to subrounded gravel.	OS: 0.0 HS: 0.0		
7								
8								
9								
10		60/40	S-3		0-40" Tan fine to medium SAND, some gravel, dense, till-like, moist.	OS: 0.0 HS: 0.0		
11								
12								
13								
14								
15		48/48	S-4		0-48" Tan fine to medium SAND, some gravel, dense, till-like, saturated.	OS: 0.0 HS: 0.0		
16								
17								
18								
19					End of Boring @ 19 feet.	OS: 2.6 HS: 6.2		



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BORING/WELL CONSTRUCTION LOG

CLIENT/PROJECT NUMBER 163 Glen Street/212867 SCREEN TYPE/SLOT 2" Schedule 40 slotted PVC
BORING/WELL NUMBER TRC-2 FILTER PACK TYPE Sand Pack
TRC GEOLOGIST E. Wachtel SEAL TYPE Bentonite
DRILLING CONTRACTOR/FOREMAN NEG/Maynor DEPTH TO WATER (Approximate Feet) 11
DATE DRILLED 1/20/2014 TOTAL DEPTH (Feet) 20
LOCATION Approximately 11' SW of light post in parking lot. GROUND ELEVATION (Feet) TBD
SAMPLING METHOD Continuous- 60" Macrocore REFERENCE ELEVATION (Feet) TBD
DRILLING METHOD Direct Push-7822 DT
NOTES Sampled for VOC, EPH Carbon ranges, PAH, and MCP-14 Metals.

DEPTH (ft. BGL)	BLOW COUNTS	PEN/REC (INCHES)	CORE #	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	Field Testing (ppm)	SAMPLE ID/ TIME	WELL DIAGRAM
1	NA	60/38	S-1		0-5" Crushed ASPHALT.	OS: 0.0	TRC-2(0-8/11') 1040	
2					5-8" Tan fine to medium SAND.			
3					8-20" Brown to olive fine SAND and SILT, trace gravel.			
4					20-32" Tan to olive SILT and CLAY, dense.			
5	60/45	S-2			32-35" Brown peat-like SILT.	OS: 0.0		
6					35-38" Tan fine to medium SAND and GRAVEL.	OS: 0.0		
7					0-30" Tan SILT and CLAY, dense, some trace gravel.			
8								
9	60/35	S-3			30-45" Tan fine to medium SAND, some gravel.	OS: 0.0 HS: 0.7		
10					0-35" Tan fine SAND, some silt, trace medium gravel.	OS: 0.0 HS: 4.2		
11								
12								
13	60/30	S-4				OS: 0.0 HS: 10.2		
14					0-30" Tan fine to medium SAND, saturated.	OS: 0.0 HS: 17.3		
15								
16								
17						OS: 2.3 HS: 9.9		
18								
19								
20					End of Boring @ 20 feet.			



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BORING/WELL CONSTRUCTION LOG

CLIENT/PROJECT NUMBER 163 Glen Street/212867 SCREEN TYPE/SLOT 2" Schedule 40 slotted PVC
BORING/WELL NUMBER TRC-3 FILTER PACK TYPE Sand Pack
TRC GEOLOGIST E. Wachtel SEAL TYPE Bentonite
DRILLING CONTRACTOR/FOREMAN NEG/Maynor DEPTH TO WATER (Approximate Feet) 10
DATE DRILLED 1/20/2014 TOTAL DEPTH (Feet) 20
LOCATION Approximately 67' NE of TRC-1 GROUND ELEVATION (Feet) TBD
SAMPLING METHOD Continuous- 60" Macrocore REFERENCE ELEVATION (Feet) TBD
DRILLING METHOD Direct Push-7822 DT
NOTES Sampled for VOC, EPH Carbon ranges, PAH, and MCP-14 Metals.

DEPTH (ft. BGL)	BLOW COUNTS	PEN/REC (INCHES)	CORE #	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	Field Testing (ppm)	SAMPLE ID/ TIME	WELL DIAGRAM
1	NA	60/35	S-1		0-3" Crushed ASPHALT.	OS: 0.0	TRC-3(0-8/10') 1200	
2					3-8" Tan medium SAND.			
3					8-18" Brown to plack fine to medium SAND, some gravel.			
4					18-26" Tan to gray SILT and CLAY, dense.			
5	60/35	S-2			26-28" Crushed red BRICK.	OS: 0.0		
6					28-35" Brown medium SAND.	OS: 0.0		
7					0-20" Tan SILT and CLAY, very dense.			
8					20-35" Tan fine SAND and SILT, some angular gravel, very dense [TILL].	OS: 0.0		
9	60/60	S-3			0-60" Tan fine SAND and SILT, some angular to subangular gravel, moist to wet, very dense.	OS: 0.3		
10								
11								
12								
13	60/45	S-4			0-45" Tan fine to coarse SAND and SILT, some gravel, saturated.	OS: 6.5		
14						OS: 0.3		
15								
16								
17						OS: 0.6		
18								
19								
20					End of Boring @ 20 feet.			



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Lowell, MA
Telephone: 978-970-5600
Fax: 978-453-1995

BORING/WELL CONSTRUCTION LOG

CLIENT/PROJECT NUMBER 163 Glen Street/212867 SCREEN TYPE/SLOT 2" Schedule 40 slotted PVC
BORING/WELL NUMBER TRC-4 FILTER PACK TYPE Sand Pack
TRC GEOLOGIST E. Wachtel SEAL TYPE Bentonite
DRILLING CONTRACTOR/FOREMAN NEG/Maynor DEPTH TO WATER (Approximate Feet) 8
DATE DRILLED 1/20/2014 TOTAL DEPTH (Feet) 20
LOCATION Northeastern end of building, 11.5 ft NW Glen St GROUND ELEVATION (Feet) TBD
SAMPLING METHOD Continuous- 60" Macrocore REFERENCE ELEVATION (Feet) TBD
DRILLING METHOD Direct Push-7822 DT
NOTES Sampled for VOC, EPH Carbon ranges, PAH, and MCP-14 Metals.

DEPTH (ft. BGL)	BLOW COUNTS	PEN/REC (INCHES)	CORE #	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	Field Testing (ppm)	SAMPLE ID/ TIME	WELL DIAGRAM
1	NA	60/55	S-1		0-2" ASPHALT. 2-12" Brown fine to medium SAND and SILT, trace brick fragments. 12-55" Tan SILT, some clay, dense.	OS: 0.0		
2								
3								
4						OS: 0.0	TRC-4(0-8/8') 1400	
5		60/60	S-2		0-25" Tan SILT, some clay, dense.	OS: 0.0		
6								
7								
8					25-60" Tan to gray CLAY, some silt, moist.			
9						OS: 0.0		
10		60/40	S-3		0-15" Tan to gray CLAY, some silt.	OS: 0.0		
11								
12					15-40" Tan SILT, some fine sand, some clay, some gravel, moist, very dense.			
13						OS: 0.0		
14								
15		60/40	S-4		0-40" Tan fine to medium SAND, some gravel, some silt, dense.	OS: 0.0		
16								
17								
18								
19						OS: 8.9		
20					End of Boring @ 20 feet.			

APPENDIX B

LABORATORY ANALYTICAL REPORTS

January 27, 2014

Dave Gill
TRC Solutions - Lowell
650 Suffolk Street
Lowell, MA 01852

Project Location: 163 Glen St., Somerville, MA
Client Job Number:
Project Number: 212867 Phase000002
Laboratory Work Order Number: 14A0592

Enclosed are results of analyses for samples received by the laboratory on January 20, 2014. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink, reading "Meghan E. Kelley". The signature is written in a cursive, flowing style. The first name "Meghan" is written in a larger, more prominent script, followed by "E." and "Kelley". The signature is set against a light gray rectangular background.

Meghan E. Kelley
Project Manager

TRC Solutions - Lowell
650 Suffolk Street
Lowell, MA 01852
ATTN: Dave Gill

REPORT DATE: 1/27/2014

PURCHASE ORDER NUMBER:

PROJECT NUMBER: 212867 Phase000002

ANALYTICAL SUMMARY

WORK ORDER NUMBER: 14A0592

The results of analyses performed on the following samples submitted to the CON-TEST Analytical Laboratory are found in this report.

PROJECT LOCATION: 163 Glen St., Somerville, MA

FIELD SAMPLE #	LAB ID:	MATRIX	SAMPLE DESCRIPTION	TEST	SUB LAB
TRC-1 (0-8/11)	14A0592-01	Soil		MADEP-EPH-04-1.1 SM 2540G SW-846 6010C SW-846 7471B SW-846 8260C SW-846 8270D	
TRC-2 (0-8/11)	14A0592-02	Soil		MADEP-EPH-04-1.1 SM 2540G SW-846 6010C SW-846 7471B SW-846 8260C SW-846 8270D	
TRC-3 (0-8/10)	14A0592-03	Soil		MADEP-EPH-04-1.1 SM 2540G SW-846 6010C SW-846 7471B SW-846 8260C SW-846 8270D	
TRC-4 (0-8/8)	14A0592-04	Soil		MADEP-EPH-04-1.1 SM 2540G SW-846 6010C SW-846 7471B SW-846 8260C SW-846 8270D	
Dup-1	14A0592-05	Soil		MADEP-EPH-04-1.1 SM 2540G SW-846 6010C SW-846 7471B SW-846 8260C SW-846 8270D	
Trip Blank	14A0592-06	Trip Blank Soil		SW-846 8260C	

CASE NARRATIVE SUMMARY

All reported results are within defined laboratory quality control objectives unless listed below or otherwise qualified in this report.

For method MA EPH, only carbon fractions were requested and reported.

For method 8270, only PAHs were requested and reported.

SW-846 6010C**Qualifications:**

Elevated reporting limit due to high concentration of an interfering analyte(s).

Analyte & Samples(s) Qualified:**Thallium**

14A0592-04[TRC-4 (0-8/8)]

Matrix spike recovery is outside of control limits. Analysis is in control based on laboratory fortified blank recovery. Possibility of sample matrix effects that lead to low bias for reported result or non-homogeneous sample aliquot cannot be eliminated.

Analyte & Samples(s) Qualified:**Antimony**

14A0592-02[TRC-2 (0-8/11)], B089090-MS1

Matrix spike recovery outside of control limits. Possibility of sample matrix effects that lead to a high bias for reported result or non-homogeneous sample aliquots cannot be eliminated.

Analyte & Samples(s) Qualified:**Lead**

14A0592-02[TRC-2 (0-8/11)], B089090-MS1

Sample to spike ratio is greater than or equal to 4:1. Spiked amount is not representative of the native amount in the sample. Appropriate or meaningful recoveries cannot be calculated.

Analyte & Samples(s) Qualified:**Zinc**

14A0592-02[TRC-2 (0-8/11)], B089090-MS1

Serial dilution is outside control limits.

Analyte & Samples(s) Qualified:**Lead, Zinc**

14A0592-02[TRC-2 (0-8/11)], S005341-SRD1

SW-846 8260C**Qualifications:**

Compound classified by MA CAM as difficult with acceptable recoveries of 40-160%. Recovery does not meet 70-130% criteria but does meet difficult compound criteria.

Analyte & Samples(s) Qualified:**Bromomethane, Chloromethane, Dichlorodifluoromethane (Freon 12)**

B089076-BS1, B089076-BSD1

Matrix spike recovery is outside of control limits. Analysis is in control based on laboratory fortified blank recovery. Possibility of sample matrix effects that lead to low bias for reported result or non-homogeneous sample aliquot cannot be eliminated.

Analyte & Samples(s) Qualified:**Chloromethane, Dichlorodifluoromethane (Freon 12)**

14A0592-01[TRC-1 (0-8/11)], B089076-MS1

Continuing calibration did not meet method specifications and was biased on the low side for this compound. Increased uncertainty is associated with the reported value which is likely to be biased on the low side.

Analyte & Samples(s) Qualified:**Dichlorodifluoromethane (Freon 12)**

14A0592-01[TRC-1 (0-8/11)], 14A0592-02[TRC-2 (0-8/11)], 14A0592-03[TRC-3 (0-8/10)], 14A0592-04[TRC-4 (0-8/8)], 14A0592-05[*Dup*-1], 14A0592-06[*Trip* Blank], B089076-BLK1, B089076-BS1, B089076-BSD1, B089076-MS1

Response factor is less than method specified minimum acceptable value. Reduced precision and accuracy may be associated with reported result.

Analyte & Samples(s) Qualified:**1,4-Dioxane, Acetone, Diethyl Ether, Tetrahydrofuran**

14A0592-01[TRC-1 (0-8/11)], 14A0592-02[TRC-2 (0-8/11)], 14A0592-03[TRC-3 (0-8/10)], 14A0592-04[TRC-4 (0-8/8)], 14A0592-05[*Dup-1*], 14A0592-06[Trip Blank], B089076-BLK1, B089076-BS1, B089076-BSD1, B089076-MS1

SW-846 8270D**Qualifications:**

Laboratory fortified blank duplicate RPD is outside of control limits. Reduced precision is anticipated for any reported value for this compound.

Analyte & Samples(s) Qualified:**Fluoranthene**

14A0592-01[TRC-1 (0-8/11)], 14A0592-02[TRC-2 (0-8/11)], 14A0592-03RE2[TRC-3 (0-8/10)], 14A0592-04[TRC-4 (0-8/8)], 14A0592-05RE1[*Dup-1*], B089118-BLK1, B089118-BS1, B089118-BSD1

MADEP-EPH-04-1.1

SPE cartridge contamination with non-petroleum compounds, if present, is verified by GC/MS in each method blank per extraction batch and excluded from C11-C22 aromatic range fraction in all samples in the batch. No significant modifications were made to the method.

SW-846 8260C

Laboratory control sample recoveries for required MCP Data Enhancement 8260 compounds were all within limits specified by the method except for “difficult analytes” where recovery control limits of 40-160% are used and/or unless otherwise listed in this narrative. Difficult analytes: MIBK, MEK, acetone, 1,4-dioxane, chloromethane, dichlorodifluoromethane, 2-hexanone, and bromomethane.

The results of analyses reported only relate to samples submitted to the Con-Test Analytical Laboratory for testing.

I certify that the analyses listed above, unless specifically listed as subcontracted, if any, were performed under my direction according to the approved methodologies listed in this document, and that based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.



Michael A. Erickson
Laboratory Director

Project Location: 163 Glen St., Somerville, MA

Sample Description:

Work Order: 14A0592

Date Received: 1/20/2014

Field Sample #: TRC-1 (0-8/11)

Sampled: 1/20/2014 09:15

Sample ID: 14A0592-01

Sample Matrix: Soil

Volatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Acetone	ND	0.044	mg/Kg dry	1	V-16	SW-846 8260C	1/21/14	1/21/14 8:00	MFF
tert-Amyl Methyl Ether (TAME)	ND	0.00044	mg/Kg dry	1		SW-846 8260C	1/21/14	1/21/14 8:00	MFF
Benzene	ND	0.00087	mg/Kg dry	1		SW-846 8260C	1/21/14	1/21/14 8:00	MFF
Bromobenzene	ND	0.00087	mg/Kg dry	1		SW-846 8260C	1/21/14	1/21/14 8:00	MFF
Bromochloromethane	ND	0.00087	mg/Kg dry	1		SW-846 8260C	1/21/14	1/21/14 8:00	MFF
Bromodichloromethane	ND	0.00087	mg/Kg dry	1		SW-846 8260C	1/21/14	1/21/14 8:00	MFF
Bromoform	ND	0.00087	mg/Kg dry	1		SW-846 8260C	1/21/14	1/21/14 8:00	MFF
Bromomethane	ND	0.0044	mg/Kg dry	1		SW-846 8260C	1/21/14	1/21/14 8:00	MFF
2-Butanone (MEK)	ND	0.017	mg/Kg dry	1		SW-846 8260C	1/21/14	1/21/14 8:00	MFF
n-Butylbenzene	ND	0.0017	mg/Kg dry	1		SW-846 8260C	1/21/14	1/21/14 8:00	MFF
sec-Butylbenzene	ND	0.00087	mg/Kg dry	1		SW-846 8260C	1/21/14	1/21/14 8:00	MFF
tert-Butylbenzene	ND	0.0017	mg/Kg dry	1		SW-846 8260C	1/21/14	1/21/14 8:00	MFF
tert-Butyl Ethyl Ether (TBEE)	ND	0.00044	mg/Kg dry	1		SW-846 8260C	1/21/14	1/21/14 8:00	MFF
Carbon Disulfide	ND	0.0026	mg/Kg dry	1		SW-846 8260C	1/21/14	1/21/14 8:00	MFF
Carbon Tetrachloride	ND	0.00087	mg/Kg dry	1		SW-846 8260C	1/21/14	1/21/14 8:00	MFF
Chlorobenzene	ND	0.00087	mg/Kg dry	1		SW-846 8260C	1/21/14	1/21/14 8:00	MFF
Chlorodibromomethane	ND	0.00044	mg/Kg dry	1		SW-846 8260C	1/21/14	1/21/14 8:00	MFF
Chloroethane	ND	0.0044	mg/Kg dry	1		SW-846 8260C	1/21/14	1/21/14 8:00	MFF
Chloroform	ND	0.0017	mg/Kg dry	1		SW-846 8260C	1/21/14	1/21/14 8:00	MFF
Chloromethane	ND	0.0044	mg/Kg dry	1	MS-07	SW-846 8260C	1/21/14	1/21/14 8:00	MFF
2-Chlorotoluene	ND	0.00087	mg/Kg dry	1		SW-846 8260C	1/21/14	1/21/14 8:00	MFF
4-Chlorotoluene	ND	0.00087	mg/Kg dry	1		SW-846 8260C	1/21/14	1/21/14 8:00	MFF
1,2-Dibromo-3-chloropropane (DBCP)	ND	0.0044	mg/Kg dry	1		SW-846 8260C	1/21/14	1/21/14 8:00	MFF
1,2-Dibromoethane (EDB)	ND	0.00044	mg/Kg dry	1		SW-846 8260C	1/21/14	1/21/14 8:00	MFF
Dibromomethane	ND	0.00087	mg/Kg dry	1		SW-846 8260C	1/21/14	1/21/14 8:00	MFF
1,2-Dichlorobenzene	ND	0.00087	mg/Kg dry	1		SW-846 8260C	1/21/14	1/21/14 8:00	MFF
1,3-Dichlorobenzene	ND	0.00087	mg/Kg dry	1		SW-846 8260C	1/21/14	1/21/14 8:00	MFF
1,4-Dichlorobenzene	ND	0.00087	mg/Kg dry	1		SW-846 8260C	1/21/14	1/21/14 8:00	MFF
Dichlorodifluoromethane (Freon 12)	ND	0.0044	mg/Kg dry	1	MS-07, V-05	SW-846 8260C	1/21/14	1/21/14 8:00	MFF
1,1-Dichloroethane	ND	0.00087	mg/Kg dry	1		SW-846 8260C	1/21/14	1/21/14 8:00	MFF
1,2-Dichloroethane	ND	0.00087	mg/Kg dry	1		SW-846 8260C	1/21/14	1/21/14 8:00	MFF
1,1-Dichloroethylene	ND	0.0017	mg/Kg dry	1		SW-846 8260C	1/21/14	1/21/14 8:00	MFF
cis-1,2-Dichloroethylene	ND	0.00087	mg/Kg dry	1		SW-846 8260C	1/21/14	1/21/14 8:00	MFF
trans-1,2-Dichloroethylene	ND	0.00087	mg/Kg dry	1		SW-846 8260C	1/21/14	1/21/14 8:00	MFF
1,2-Dichloropropane	ND	0.00087	mg/Kg dry	1		SW-846 8260C	1/21/14	1/21/14 8:00	MFF
1,3-Dichloropropane	ND	0.00044	mg/Kg dry	1		SW-846 8260C	1/21/14	1/21/14 8:00	MFF
2,2-Dichloropropane	ND	0.0044	mg/Kg dry	1		SW-846 8260C	1/21/14	1/21/14 8:00	MFF
1,1-Dichloropropene	ND	0.00087	mg/Kg dry	1		SW-846 8260C	1/21/14	1/21/14 8:00	MFF
cis-1,3-Dichloropropene	ND	0.00044	mg/Kg dry	1		SW-846 8260C	1/21/14	1/21/14 8:00	MFF
trans-1,3-Dichloropropene	ND	0.0017	mg/Kg dry	1		SW-846 8260C	1/21/14	1/21/14 8:00	MFF
Diethyl Ether	ND	0.0044	mg/Kg dry	1	V-16	SW-846 8260C	1/21/14	1/21/14 8:00	MFF
Diisopropyl Ether (DIPE)	ND	0.00044	mg/Kg dry	1		SW-846 8260C	1/21/14	1/21/14 8:00	MFF
1,4-Dioxane	ND	0.044	mg/Kg dry	1	V-16	SW-846 8260C	1/21/14	1/21/14 8:00	MFF
Ethylbenzene	ND	0.00087	mg/Kg dry	1		SW-846 8260C	1/21/14	1/21/14 8:00	MFF

Project Location: 163 Glen St., Somerville, MA

Sample Description:

Work Order: 14A0592

Date Received: 1/20/2014

Field Sample #: TRC-1 (0-8/11)

Sampled: 1/20/2014 09:15

Sample ID: 14A0592-01

Sample Matrix: Soil

Volatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Hexachlorobutadiene	ND	0.0017	mg/Kg dry	1		SW-846 8260C	1/21/14	1/21/14 8:00	MFF
2-Hexanone (MBK)	ND	0.0087	mg/Kg dry	1		SW-846 8260C	1/21/14	1/21/14 8:00	MFF
Isopropylbenzene (Cumene)	ND	0.00087	mg/Kg dry	1		SW-846 8260C	1/21/14	1/21/14 8:00	MFF
p-Isopropyltoluene (p-Cymene)	ND	0.00087	mg/Kg dry	1		SW-846 8260C	1/21/14	1/21/14 8:00	MFF
Methyl tert-Butyl Ether (MTBE)	ND	0.0017	mg/Kg dry	1		SW-846 8260C	1/21/14	1/21/14 8:00	MFF
Methylene Chloride	ND	0.0044	mg/Kg dry	1		SW-846 8260C	1/21/14	1/21/14 8:00	MFF
4-Methyl-2-pentanone (MIBK)	ND	0.0087	mg/Kg dry	1		SW-846 8260C	1/21/14	1/21/14 8:00	MFF
Naphthalene	ND	0.0044	mg/Kg dry	1		SW-846 8260C	1/21/14	1/21/14 8:00	MFF
n-Propylbenzene	ND	0.00087	mg/Kg dry	1		SW-846 8260C	1/21/14	1/21/14 8:00	MFF
Styrene	ND	0.00087	mg/Kg dry	1		SW-846 8260C	1/21/14	1/21/14 8:00	MFF
1,1,1,2-Tetrachloroethane	ND	0.00087	mg/Kg dry	1		SW-846 8260C	1/21/14	1/21/14 8:00	MFF
1,1,2,2-Tetrachloroethane	ND	0.00044	mg/Kg dry	1		SW-846 8260C	1/21/14	1/21/14 8:00	MFF
Tetrachloroethylene	0.0019	0.00087	mg/Kg dry	1		SW-846 8260C	1/21/14	1/21/14 8:00	MFF
Tetrahydrofuran	ND	0.0044	mg/Kg dry	1	V-16	SW-846 8260C	1/21/14	1/21/14 8:00	MFF
Toluene	ND	0.00087	mg/Kg dry	1		SW-846 8260C	1/21/14	1/21/14 8:00	MFF
1,2,3-Trichlorobenzene	ND	0.0044	mg/Kg dry	1		SW-846 8260C	1/21/14	1/21/14 8:00	MFF
1,2,4-Trichlorobenzene	ND	0.0044	mg/Kg dry	1		SW-846 8260C	1/21/14	1/21/14 8:00	MFF
1,1,1-Trichloroethane	ND	0.00087	mg/Kg dry	1		SW-846 8260C	1/21/14	1/21/14 8:00	MFF
1,1,2-Trichloroethane	ND	0.00087	mg/Kg dry	1		SW-846 8260C	1/21/14	1/21/14 8:00	MFF
Trichloroethylene	ND	0.00087	mg/Kg dry	1		SW-846 8260C	1/21/14	1/21/14 8:00	MFF
Trichlorofluoromethane (Freon 11)	ND	0.0044	mg/Kg dry	1		SW-846 8260C	1/21/14	1/21/14 8:00	MFF
1,2,3-Trichloropropane	ND	0.00087	mg/Kg dry	1		SW-846 8260C	1/21/14	1/21/14 8:00	MFF
1,2,4-Trimethylbenzene	ND	0.00087	mg/Kg dry	1		SW-846 8260C	1/21/14	1/21/14 8:00	MFF
1,3,5-Trimethylbenzene	ND	0.00087	mg/Kg dry	1		SW-846 8260C	1/21/14	1/21/14 8:00	MFF
Vinyl Chloride	ND	0.0044	mg/Kg dry	1		SW-846 8260C	1/21/14	1/21/14 8:00	MFF
m+p Xylene	ND	0.0017	mg/Kg dry	1		SW-846 8260C	1/21/14	1/21/14 8:00	MFF
o-Xylene	ND	0.00087	mg/Kg dry	1		SW-846 8260C	1/21/14	1/21/14 8:00	MFF
Surrogates	% Recovery	Recovery Limits	Flag/Qual						
1,2-Dichloroethane-d4	95.4	70-130						1/21/14 8:00	
Toluene-d8	99.1	70-130						1/21/14 8:00	
4-Bromofluorobenzene	98.9	70-130						1/21/14 8:00	

Project Location: 163 Glen St., Somerville, MA

Sample Description:

Work Order: 14A0592

Date Received: 1/20/2014

Field Sample #: TRC-1 (0-8/11)

Sampled: 1/20/2014 09:15

Sample ID: 14A0592-01

Sample Matrix: Soil

Semivolatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Acenaphthene	ND	0.19	mg/Kg dry	1		SW-846 8270D	1/22/14	1/25/14 9:43	CMR
Acenaphthylene	ND	0.19	mg/Kg dry	1		SW-846 8270D	1/22/14	1/25/14 9:43	CMR
Anthracene	0.58	0.19	mg/Kg dry	1		SW-846 8270D	1/22/14	1/25/14 9:43	CMR
Benzo(a)anthracene	1.6	0.19	mg/Kg dry	1		SW-846 8270D	1/22/14	1/25/14 9:43	CMR
Benzo(a)pyrene	1.6	0.19	mg/Kg dry	1		SW-846 8270D	1/22/14	1/25/14 9:43	CMR
Benzo(b)fluoranthene	1.9	0.19	mg/Kg dry	1		SW-846 8270D	1/22/14	1/25/14 9:43	CMR
Benzo(g,h,i)perylene	0.73	0.19	mg/Kg dry	1		SW-846 8270D	1/22/14	1/25/14 9:43	CMR
Benzo(k)fluoranthene	0.86	0.19	mg/Kg dry	1		SW-846 8270D	1/22/14	1/25/14 9:43	CMR
Chrysene	1.7	0.19	mg/Kg dry	1		SW-846 8270D	1/22/14	1/25/14 9:43	CMR
Dibenz(a,h)anthracene	0.21	0.19	mg/Kg dry	1		SW-846 8270D	1/22/14	1/25/14 9:43	CMR
Fluoranthene	3.3	0.19	mg/Kg dry	1	R-05	SW-846 8270D	1/22/14	1/25/14 9:43	CMR
Fluorene	ND	0.19	mg/Kg dry	1		SW-846 8270D	1/22/14	1/25/14 9:43	CMR
Indeno(1,2,3-cd)pyrene	0.72	0.19	mg/Kg dry	1		SW-846 8270D	1/22/14	1/25/14 9:43	CMR
2-Methylnaphthalene	ND	0.19	mg/Kg dry	1		SW-846 8270D	1/22/14	1/25/14 9:43	CMR
Naphthalene	ND	0.19	mg/Kg dry	1		SW-846 8270D	1/22/14	1/25/14 9:43	CMR
Phenanthrene	2.2	0.19	mg/Kg dry	1		SW-846 8270D	1/22/14	1/25/14 9:43	CMR
Pyrene	2.1	0.19	mg/Kg dry	1		SW-846 8270D	1/22/14	1/25/14 9:43	CMR
Surrogates	% Recovery	Recovery Limits	Flag/Qual						
Nitrobenzene-d5	91.6	30-130							
2-Fluorobiphenyl	95.3	30-130							
p-Terphenyl-d14	63.6	30-130							

Project Location: 163 Glen St., Somerville, MA

Sample Description:

Work Order: 14A0592

Date Received: 1/20/2014

Field Sample #: TRC-1 (0-8/11)

Sampled: 1/20/2014 09:15

Sample ID: 14A0592-01

Sample Matrix: Soil

Petroleum Hydrocarbons Analyses - EPH

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
C9-C18 Aliphatics	ND	11	mg/Kg dry	1		MADEP-EPH-04-1.1	1/22/14	1/24/14 2:37	SCS
C19-C36 Aliphatics	44	11	mg/Kg dry	1		MADEP-EPH-04-1.1	1/22/14	1/24/14 2:37	SCS
Unadjusted C11-C22 Aromatics	89	11	mg/Kg dry	1		MADEP-EPH-04-1.1	1/22/14	1/24/14 2:37	SCS
C11-C22 Aromatics	65	11	mg/Kg dry	1		MADEP-EPH-04-1.1	1/22/14	1/24/14 2:37	SCS
Surrogates	% Recovery	Recovery Limits	Flag/Qual						
Chlorooctadecane (COD)	56.0	40-140						1/24/14 2:37	
o-Terphenyl (OTP)	72.2	40-140						1/24/14 2:37	
2-Bromonaphthalene	105	40-140						1/24/14 2:37	
2-Fluorobiphenyl	111	40-140						1/24/14 2:37	

Project Location: 163 Glen St., Somerville, MA

Sample Description:

Work Order: 14A0592

Date Received: 1/20/2014

Field Sample #: TRC-1 (0-8/11)

Sampled: 1/20/2014 09:15

Sample ID: 14A0592-01

Sample Matrix: Soil

Metals Analyses (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Antimony	ND	2.7	mg/Kg dry	1		SW-846 6010C	1/21/14	1/22/14 15:57	OP
Arsenic	3.2	2.7	mg/Kg dry	1		SW-846 6010C	1/21/14	1/22/14 15:57	OP
Barium	150	2.7	mg/Kg dry	1		SW-846 6010C	1/21/14	1/22/14 15:57	OP
Beryllium	ND	0.27	mg/Kg dry	1		SW-846 6010C	1/21/14	1/22/14 15:57	OP
Cadmium	0.69	0.27	mg/Kg dry	1		SW-846 6010C	1/21/14	1/22/14 15:57	OP
Chromium	15	0.54	mg/Kg dry	1		SW-846 6010C	1/21/14	1/22/14 15:57	OP
Lead	800	0.81	mg/Kg dry	1		SW-846 6010C	1/21/14	1/22/14 15:57	OP
Mercury	0.075	0.027	mg/Kg dry	1		SW-846 7471B	1/21/14	1/22/14 14:01	SAJ
Nickel	12	0.54	mg/Kg dry	1		SW-846 6010C	1/21/14	1/22/14 15:57	OP
Selenium	ND	5.4	mg/Kg dry	1		SW-846 6010C	1/21/14	1/22/14 15:57	OP
Silver	ND	0.54	mg/Kg dry	1		SW-846 6010C	1/21/14	1/22/14 15:57	OP
Thallium	ND	2.7	mg/Kg dry	1		SW-846 6010C	1/21/14	1/22/14 15:57	OP
Vanadium	30	1.1	mg/Kg dry	1		SW-846 6010C	1/21/14	1/22/14 15:57	OP
Zinc	100	1.1	mg/Kg dry	1		SW-846 6010C	1/21/14	1/22/14 15:57	OP

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Project Location: 163 Glen St., Somerville, MA

Sample Description:

Work Order: 14A0592

Date Received: 1/20/2014

Field Sample #: TRC-1 (0-8/11)

Sampled: 1/20/2014 09:15

Sample ID: 14A0592-01

Sample Matrix: Soil

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	90.4		% Wt	1		SM 2540G	1/27/14	1/27/14 13:55	MXG

Project Location: 163 Glen St., Somerville, MA

Sample Description:

Work Order: 14A0592

Date Received: 1/20/2014

Field Sample #: TRC-2 (0-8/11)

Sampled: 1/20/2014 10:40

Sample ID: 14A0592-02

Sample Matrix: Soil

Volatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Acetone	ND	0.063	mg/Kg dry	1	V-16	SW-846 8260C	1/21/14	1/21/14 8:27	MFF
tert-Amyl Methyl Ether (TAME)	ND	0.00063	mg/Kg dry	1		SW-846 8260C	1/21/14	1/21/14 8:27	MFF
Benzene	ND	0.0013	mg/Kg dry	1		SW-846 8260C	1/21/14	1/21/14 8:27	MFF
Bromobenzene	ND	0.0013	mg/Kg dry	1		SW-846 8260C	1/21/14	1/21/14 8:27	MFF
Bromochloromethane	ND	0.0013	mg/Kg dry	1		SW-846 8260C	1/21/14	1/21/14 8:27	MFF
Bromodichloromethane	ND	0.0013	mg/Kg dry	1		SW-846 8260C	1/21/14	1/21/14 8:27	MFF
Bromoform	ND	0.0013	mg/Kg dry	1		SW-846 8260C	1/21/14	1/21/14 8:27	MFF
Bromomethane	ND	0.0063	mg/Kg dry	1		SW-846 8260C	1/21/14	1/21/14 8:27	MFF
2-Butanone (MEK)	ND	0.025	mg/Kg dry	1		SW-846 8260C	1/21/14	1/21/14 8:27	MFF
n-Butylbenzene	ND	0.0025	mg/Kg dry	1		SW-846 8260C	1/21/14	1/21/14 8:27	MFF
sec-Butylbenzene	ND	0.0013	mg/Kg dry	1		SW-846 8260C	1/21/14	1/21/14 8:27	MFF
tert-Butylbenzene	ND	0.0025	mg/Kg dry	1		SW-846 8260C	1/21/14	1/21/14 8:27	MFF
tert-Butyl Ethyl Ether (TBEE)	ND	0.00063	mg/Kg dry	1		SW-846 8260C	1/21/14	1/21/14 8:27	MFF
Carbon Disulfide	ND	0.0038	mg/Kg dry	1		SW-846 8260C	1/21/14	1/21/14 8:27	MFF
Carbon Tetrachloride	ND	0.0013	mg/Kg dry	1		SW-846 8260C	1/21/14	1/21/14 8:27	MFF
Chlorobenzene	ND	0.0013	mg/Kg dry	1		SW-846 8260C	1/21/14	1/21/14 8:27	MFF
Chlorodibromomethane	ND	0.00063	mg/Kg dry	1		SW-846 8260C	1/21/14	1/21/14 8:27	MFF
Chloroethane	ND	0.0063	mg/Kg dry	1		SW-846 8260C	1/21/14	1/21/14 8:27	MFF
Chloroform	ND	0.0025	mg/Kg dry	1		SW-846 8260C	1/21/14	1/21/14 8:27	MFF
Chloromethane	ND	0.0063	mg/Kg dry	1		SW-846 8260C	1/21/14	1/21/14 8:27	MFF
2-Chlorotoluene	ND	0.0013	mg/Kg dry	1		SW-846 8260C	1/21/14	1/21/14 8:27	MFF
4-Chlorotoluene	ND	0.0013	mg/Kg dry	1		SW-846 8260C	1/21/14	1/21/14 8:27	MFF
1,2-Dibromo-3-chloropropane (DBCP)	ND	0.0063	mg/Kg dry	1		SW-846 8260C	1/21/14	1/21/14 8:27	MFF
1,2-Dibromoethane (EDB)	ND	0.00063	mg/Kg dry	1		SW-846 8260C	1/21/14	1/21/14 8:27	MFF
Dibromomethane	ND	0.0013	mg/Kg dry	1		SW-846 8260C	1/21/14	1/21/14 8:27	MFF
1,2-Dichlorobenzene	ND	0.0013	mg/Kg dry	1		SW-846 8260C	1/21/14	1/21/14 8:27	MFF
1,3-Dichlorobenzene	ND	0.0013	mg/Kg dry	1		SW-846 8260C	1/21/14	1/21/14 8:27	MFF
1,4-Dichlorobenzene	ND	0.0013	mg/Kg dry	1		SW-846 8260C	1/21/14	1/21/14 8:27	MFF
Dichlorodifluoromethane (Freon 12)	ND	0.0063	mg/Kg dry	1	V-05	SW-846 8260C	1/21/14	1/21/14 8:27	MFF
1,1-Dichloroethane	ND	0.0013	mg/Kg dry	1		SW-846 8260C	1/21/14	1/21/14 8:27	MFF
1,2-Dichloroethane	ND	0.0013	mg/Kg dry	1		SW-846 8260C	1/21/14	1/21/14 8:27	MFF
1,1-Dichloroethylene	ND	0.0025	mg/Kg dry	1		SW-846 8260C	1/21/14	1/21/14 8:27	MFF
cis-1,2-Dichloroethylene	ND	0.0013	mg/Kg dry	1		SW-846 8260C	1/21/14	1/21/14 8:27	MFF
trans-1,2-Dichloroethylene	ND	0.0013	mg/Kg dry	1		SW-846 8260C	1/21/14	1/21/14 8:27	MFF
1,2-Dichloropropane	ND	0.0013	mg/Kg dry	1		SW-846 8260C	1/21/14	1/21/14 8:27	MFF
1,3-Dichloropropane	ND	0.00063	mg/Kg dry	1		SW-846 8260C	1/21/14	1/21/14 8:27	MFF
2,2-Dichloropropane	ND	0.0063	mg/Kg dry	1		SW-846 8260C	1/21/14	1/21/14 8:27	MFF
1,1-Dichloropropene	ND	0.0013	mg/Kg dry	1		SW-846 8260C	1/21/14	1/21/14 8:27	MFF
cis-1,3-Dichloropropene	ND	0.00063	mg/Kg dry	1		SW-846 8260C	1/21/14	1/21/14 8:27	MFF
trans-1,3-Dichloropropene	ND	0.0025	mg/Kg dry	1		SW-846 8260C	1/21/14	1/21/14 8:27	MFF
Diethyl Ether	ND	0.0063	mg/Kg dry	1	V-16	SW-846 8260C	1/21/14	1/21/14 8:27	MFF
Diisopropyl Ether (DIPE)	ND	0.00063	mg/Kg dry	1		SW-846 8260C	1/21/14	1/21/14 8:27	MFF
1,4-Dioxane	ND	0.063	mg/Kg dry	1	V-16	SW-846 8260C	1/21/14	1/21/14 8:27	MFF
Ethylbenzene	ND	0.0013	mg/Kg dry	1		SW-846 8260C	1/21/14	1/21/14 8:27	MFF

Project Location: 163 Glen St., Somerville, MA

Sample Description:

Work Order: 14A0592

Date Received: 1/20/2014

Field Sample #: TRC-2 (0-8/11)

Sampled: 1/20/2014 10:40

Sample ID: 14A0592-02

Sample Matrix: Soil

Volatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Hexachlorobutadiene	ND	0.0025	mg/Kg dry	1		SW-846 8260C	1/21/14	1/21/14 8:27	MFF
2-Hexanone (MBK)	ND	0.013	mg/Kg dry	1		SW-846 8260C	1/21/14	1/21/14 8:27	MFF
Isopropylbenzene (Cumene)	ND	0.0013	mg/Kg dry	1		SW-846 8260C	1/21/14	1/21/14 8:27	MFF
p-Isopropyltoluene (p-Cymene)	ND	0.0013	mg/Kg dry	1		SW-846 8260C	1/21/14	1/21/14 8:27	MFF
Methyl tert-Butyl Ether (MTBE)	ND	0.0025	mg/Kg dry	1		SW-846 8260C	1/21/14	1/21/14 8:27	MFF
Methylene Chloride	ND	0.0063	mg/Kg dry	1		SW-846 8260C	1/21/14	1/21/14 8:27	MFF
4-Methyl-2-pentanone (MIBK)	ND	0.013	mg/Kg dry	1		SW-846 8260C	1/21/14	1/21/14 8:27	MFF
Naphthalene	ND	0.0063	mg/Kg dry	1		SW-846 8260C	1/21/14	1/21/14 8:27	MFF
n-Propylbenzene	ND	0.0013	mg/Kg dry	1		SW-846 8260C	1/21/14	1/21/14 8:27	MFF
Styrene	ND	0.0013	mg/Kg dry	1		SW-846 8260C	1/21/14	1/21/14 8:27	MFF
1,1,1,2-Tetrachloroethane	ND	0.0013	mg/Kg dry	1		SW-846 8260C	1/21/14	1/21/14 8:27	MFF
1,1,2,2-Tetrachloroethane	ND	0.00063	mg/Kg dry	1		SW-846 8260C	1/21/14	1/21/14 8:27	MFF
Tetrachloroethylene	ND	0.0013	mg/Kg dry	1		SW-846 8260C	1/21/14	1/21/14 8:27	MFF
Tetrahydrofuran	ND	0.0063	mg/Kg dry	1	V-16	SW-846 8260C	1/21/14	1/21/14 8:27	MFF
Toluene	ND	0.0013	mg/Kg dry	1		SW-846 8260C	1/21/14	1/21/14 8:27	MFF
1,2,3-Trichlorobenzene	ND	0.0063	mg/Kg dry	1		SW-846 8260C	1/21/14	1/21/14 8:27	MFF
1,2,4-Trichlorobenzene	ND	0.0063	mg/Kg dry	1		SW-846 8260C	1/21/14	1/21/14 8:27	MFF
1,1,1-Trichloroethane	ND	0.0013	mg/Kg dry	1		SW-846 8260C	1/21/14	1/21/14 8:27	MFF
1,1,2-Trichloroethane	ND	0.0013	mg/Kg dry	1		SW-846 8260C	1/21/14	1/21/14 8:27	MFF
Trichloroethylene	ND	0.0013	mg/Kg dry	1		SW-846 8260C	1/21/14	1/21/14 8:27	MFF
Trichlorofluoromethane (Freon 11)	ND	0.0063	mg/Kg dry	1		SW-846 8260C	1/21/14	1/21/14 8:27	MFF
1,2,3-Trichloropropane	ND	0.0013	mg/Kg dry	1		SW-846 8260C	1/21/14	1/21/14 8:27	MFF
1,2,4-Trimethylbenzene	ND	0.0013	mg/Kg dry	1		SW-846 8260C	1/21/14	1/21/14 8:27	MFF
1,3,5-Trimethylbenzene	ND	0.0013	mg/Kg dry	1		SW-846 8260C	1/21/14	1/21/14 8:27	MFF
Vinyl Chloride	ND	0.0063	mg/Kg dry	1		SW-846 8260C	1/21/14	1/21/14 8:27	MFF
m+p Xylene	ND	0.0025	mg/Kg dry	1		SW-846 8260C	1/21/14	1/21/14 8:27	MFF
o-Xylene	ND	0.0013	mg/Kg dry	1		SW-846 8260C	1/21/14	1/21/14 8:27	MFF
Surrogates	% Recovery	Recovery Limits	Flag/Qual						
1,2-Dichloroethane-d4	99.1	70-130						1/21/14 8:27	
Toluene-d8	98.0	70-130						1/21/14 8:27	
4-Bromofluorobenzene	98.0	70-130						1/21/14 8:27	

Project Location: 163 Glen St., Somerville, MA

Sample Description:

Work Order: 14A0592

Date Received: 1/20/2014

Field Sample #: TRC-2 (0-8/11)

Sampled: 1/20/2014 10:40

Sample ID: 14A0592-02

Sample Matrix: Soil

Semivolatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Acenaphthene	ND	0.20	mg/Kg dry	1		SW-846 8270D	1/22/14	1/25/14 10:15	CMR
Acenaphthylene	ND	0.20	mg/Kg dry	1		SW-846 8270D	1/22/14	1/25/14 10:15	CMR
Anthracene	ND	0.20	mg/Kg dry	1		SW-846 8270D	1/22/14	1/25/14 10:15	CMR
Benzo(a)anthracene	0.48	0.20	mg/Kg dry	1		SW-846 8270D	1/22/14	1/25/14 10:15	CMR
Benzo(a)pyrene	0.85	0.20	mg/Kg dry	1		SW-846 8270D	1/22/14	1/25/14 10:15	CMR
Benzo(b)fluoranthene	1.1	0.20	mg/Kg dry	1		SW-846 8270D	1/22/14	1/25/14 10:15	CMR
Benzo(g,h,i)perylene	0.55	0.20	mg/Kg dry	1		SW-846 8270D	1/22/14	1/25/14 10:15	CMR
Benzo(k)fluoranthene	0.39	0.20	mg/Kg dry	1		SW-846 8270D	1/22/14	1/25/14 10:15	CMR
Chrysene	0.60	0.20	mg/Kg dry	1		SW-846 8270D	1/22/14	1/25/14 10:15	CMR
Dibenz(a,h)anthracene	ND	0.20	mg/Kg dry	1		SW-846 8270D	1/22/14	1/25/14 10:15	CMR
Fluoranthene	0.80	0.20	mg/Kg dry	1	R-05	SW-846 8270D	1/22/14	1/25/14 10:15	CMR
Fluorene	ND	0.20	mg/Kg dry	1		SW-846 8270D	1/22/14	1/25/14 10:15	CMR
Indeno(1,2,3-cd)pyrene	0.55	0.20	mg/Kg dry	1		SW-846 8270D	1/22/14	1/25/14 10:15	CMR
2-Methylnaphthalene	0.23	0.20	mg/Kg dry	1		SW-846 8270D	1/22/14	1/25/14 10:15	CMR
Naphthalene	ND	0.20	mg/Kg dry	1		SW-846 8270D	1/22/14	1/25/14 10:15	CMR
Phenanthrene	0.38	0.20	mg/Kg dry	1		SW-846 8270D	1/22/14	1/25/14 10:15	CMR
Pyrene	0.99	0.20	mg/Kg dry	1		SW-846 8270D	1/22/14	1/25/14 10:15	CMR
Surrogates	% Recovery	Recovery Limits	Flag/Qual						
Nitrobenzene-d5	76.6	30-130							
2-Fluorobiphenyl	94.1	30-130							
p-Terphenyl-d14	64.1	30-130							

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Project Location: 163 Glen St., Somerville, MA

Sample Description:

Work Order: 14A0592

Date Received: 1/20/2014

Field Sample #: TRC-2 (0-8/11)

Sampled: 1/20/2014 10:40

Sample ID: 14A0592-02

Sample Matrix: Soil

Petroleum Hydrocarbons Analyses - EPH

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
C9-C18 Aliphatics	340	58	mg/Kg dry	5		MADEP-EPH-04-1.1	1/22/14	1/24/14 10:08	SCS
C19-C36 Aliphatics	73	12	mg/Kg dry	1		MADEP-EPH-04-1.1	1/22/14	1/24/14 1:14	SCS
Unadjusted C11-C22 Aromatics	87	12	mg/Kg dry	1		MADEP-EPH-04-1.1	1/22/14	1/24/14 1:14	SCS
C11-C22 Aromatics	81	12	mg/Kg dry	1		MADEP-EPH-04-1.1	1/22/14	1/24/14 1:14	SCS
Surrogates	% Recovery		Recovery Limits		Flag/Qual				
Chlorooctadecane (COD)	46.1		40-140				1/24/14 1:14		
o-Terphenyl (OTP)	56.8		40-140				1/24/14 1:14		
2-Bromonaphthalene	100		40-140				1/24/14 1:14		
2-Fluorobiphenyl	110		40-140				1/24/14 1:14		

Project Location: 163 Glen St., Somerville, MA

Sample Description:

Work Order: 14A0592

Date Received: 1/20/2014

Field Sample #: TRC-2 (0-8/11)

Sampled: 1/20/2014 10:40

Sample ID: 14A0592-02

Sample Matrix: Soil

Metals Analyses (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Antimony	ND	2.7	mg/Kg dry	1	MS-07	SW-846 6010C	1/21/14	1/22/14 15:11	OP
Arsenic	2.8	2.7	mg/Kg dry	1		SW-846 6010C	1/21/14	1/22/14 15:11	OP
Barium	73	2.7	mg/Kg dry	1		SW-846 6010C	1/21/14	1/22/14 15:11	OP
Beryllium	ND	0.27	mg/Kg dry	1		SW-846 6010C	1/21/14	1/22/14 15:11	OP
Cadmium	0.91	0.27	mg/Kg dry	1		SW-846 6010C	1/21/14	1/22/14 15:11	OP
Chromium	27	0.54	mg/Kg dry	1		SW-846 6010C	1/21/14	1/22/14 15:11	OP
Lead	87	0.82	mg/Kg dry	1	MS-11, Z-01	SW-846 6010C	1/21/14	1/23/14 13:59	OP
Mercury	0.15	0.029	mg/Kg dry	1		SW-846 7471B	1/23/14	1/27/14 11:00	SAJ
Nickel	18	0.54	mg/Kg dry	1		SW-846 6010C	1/21/14	1/22/14 15:11	OP
Selenium	ND	5.4	mg/Kg dry	1		SW-846 6010C	1/21/14	1/22/14 15:11	OP
Silver	ND	0.54	mg/Kg dry	1		SW-846 6010C	1/21/14	1/22/14 15:11	OP
Thallium	ND	2.7	mg/Kg dry	1		SW-846 6010C	1/21/14	1/22/14 15:11	OP
Vanadium	42	1.1	mg/Kg dry	1		SW-846 6010C	1/21/14	1/22/14 15:11	OP
Zinc	190	1.1	mg/Kg dry	1	MS-19, Z-01	SW-846 6010C	1/21/14	1/23/14 13:59	OP

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Project Location: 163 Glen St., Somerville, MA

Sample Description:

Work Order: 14A0592

Date Received: 1/20/2014

Field Sample #: TRC-2 (0-8/11)

Sampled: 1/20/2014 10:40

Sample ID: 14A0592-02

Sample Matrix: Soil

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	85.1		% Wt	1		SM 2540G	1/27/14	1/27/14 13:55	MXG

Project Location: 163 Glen St., Somerville, MA

Sample Description:

Work Order: 14A0592

Date Received: 1/20/2014

Field Sample #: TRC-3 (0-8/10)

Sampled: 1/20/2014 12:00

Sample ID: 14A0592-03

Sample Matrix: Soil

Volatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Acetone	ND	0.055	mg/Kg dry	1	V-16	SW-846 8260C	1/21/14	1/21/14 10:17	MFF
tert-Amyl Methyl Ether (TAME)	ND	0.00055	mg/Kg dry	1		SW-846 8260C	1/21/14	1/21/14 10:17	MFF
Benzene	ND	0.0011	mg/Kg dry	1		SW-846 8260C	1/21/14	1/21/14 10:17	MFF
Bromobenzene	ND	0.0011	mg/Kg dry	1		SW-846 8260C	1/21/14	1/21/14 10:17	MFF
Bromochloromethane	ND	0.0011	mg/Kg dry	1		SW-846 8260C	1/21/14	1/21/14 10:17	MFF
Bromodichloromethane	ND	0.0011	mg/Kg dry	1		SW-846 8260C	1/21/14	1/21/14 10:17	MFF
Bromoform	ND	0.0011	mg/Kg dry	1		SW-846 8260C	1/21/14	1/21/14 10:17	MFF
Bromomethane	ND	0.0055	mg/Kg dry	1		SW-846 8260C	1/21/14	1/21/14 10:17	MFF
2-Butanone (MEK)	ND	0.022	mg/Kg dry	1		SW-846 8260C	1/21/14	1/21/14 10:17	MFF
n-Butylbenzene	ND	0.0022	mg/Kg dry	1		SW-846 8260C	1/21/14	1/21/14 10:17	MFF
sec-Butylbenzene	ND	0.0011	mg/Kg dry	1		SW-846 8260C	1/21/14	1/21/14 10:17	MFF
tert-Butylbenzene	ND	0.0022	mg/Kg dry	1		SW-846 8260C	1/21/14	1/21/14 10:17	MFF
tert-Butyl Ethyl Ether (TBEE)	ND	0.00055	mg/Kg dry	1		SW-846 8260C	1/21/14	1/21/14 10:17	MFF
Carbon Disulfide	ND	0.0033	mg/Kg dry	1		SW-846 8260C	1/21/14	1/21/14 10:17	MFF
Carbon Tetrachloride	ND	0.0011	mg/Kg dry	1		SW-846 8260C	1/21/14	1/21/14 10:17	MFF
Chlorobenzene	ND	0.0011	mg/Kg dry	1		SW-846 8260C	1/21/14	1/21/14 10:17	MFF
Chlorodibromomethane	ND	0.00055	mg/Kg dry	1		SW-846 8260C	1/21/14	1/21/14 10:17	MFF
Chloroethane	ND	0.0055	mg/Kg dry	1		SW-846 8260C	1/21/14	1/21/14 10:17	MFF
Chloroform	ND	0.0022	mg/Kg dry	1		SW-846 8260C	1/21/14	1/21/14 10:17	MFF
Chloromethane	ND	0.0055	mg/Kg dry	1		SW-846 8260C	1/21/14	1/21/14 10:17	MFF
2-Chlorotoluene	ND	0.0011	mg/Kg dry	1		SW-846 8260C	1/21/14	1/21/14 10:17	MFF
4-Chlorotoluene	ND	0.0011	mg/Kg dry	1		SW-846 8260C	1/21/14	1/21/14 10:17	MFF
1,2-Dibromo-3-chloropropane (DBCP)	ND	0.0055	mg/Kg dry	1		SW-846 8260C	1/21/14	1/21/14 10:17	MFF
1,2-Dibromoethane (EDB)	ND	0.00055	mg/Kg dry	1		SW-846 8260C	1/21/14	1/21/14 10:17	MFF
Dibromomethane	ND	0.0011	mg/Kg dry	1		SW-846 8260C	1/21/14	1/21/14 10:17	MFF
1,2-Dichlorobenzene	ND	0.0011	mg/Kg dry	1		SW-846 8260C	1/21/14	1/21/14 10:17	MFF
1,3-Dichlorobenzene	ND	0.0011	mg/Kg dry	1		SW-846 8260C	1/21/14	1/21/14 10:17	MFF
1,4-Dichlorobenzene	ND	0.0011	mg/Kg dry	1		SW-846 8260C	1/21/14	1/21/14 10:17	MFF
Dichlorodifluoromethane (Freon 12)	ND	0.0055	mg/Kg dry	1	V-05	SW-846 8260C	1/21/14	1/21/14 10:17	MFF
1,1-Dichloroethane	ND	0.0011	mg/Kg dry	1		SW-846 8260C	1/21/14	1/21/14 10:17	MFF
1,2-Dichloroethane	ND	0.0011	mg/Kg dry	1		SW-846 8260C	1/21/14	1/21/14 10:17	MFF
1,1-Dichloroethylene	ND	0.0022	mg/Kg dry	1		SW-846 8260C	1/21/14	1/21/14 10:17	MFF
cis-1,2-Dichloroethylene	ND	0.0011	mg/Kg dry	1		SW-846 8260C	1/21/14	1/21/14 10:17	MFF
trans-1,2-Dichloroethylene	ND	0.0011	mg/Kg dry	1		SW-846 8260C	1/21/14	1/21/14 10:17	MFF
1,2-Dichloropropane	ND	0.0011	mg/Kg dry	1		SW-846 8260C	1/21/14	1/21/14 10:17	MFF
1,3-Dichloropropane	ND	0.00055	mg/Kg dry	1		SW-846 8260C	1/21/14	1/21/14 10:17	MFF
2,2-Dichloropropane	ND	0.0055	mg/Kg dry	1		SW-846 8260C	1/21/14	1/21/14 10:17	MFF
1,1-Dichloropropene	ND	0.0011	mg/Kg dry	1		SW-846 8260C	1/21/14	1/21/14 10:17	MFF
cis-1,3-Dichloropropene	ND	0.00055	mg/Kg dry	1		SW-846 8260C	1/21/14	1/21/14 10:17	MFF
trans-1,3-Dichloropropene	ND	0.0022	mg/Kg dry	1		SW-846 8260C	1/21/14	1/21/14 10:17	MFF
Diethyl Ether	ND	0.0055	mg/Kg dry	1	V-16	SW-846 8260C	1/21/14	1/21/14 10:17	MFF
Diisopropyl Ether (DIPE)	ND	0.00055	mg/Kg dry	1		SW-846 8260C	1/21/14	1/21/14 10:17	MFF
1,4-Dioxane	ND	0.055	mg/Kg dry	1	V-16	SW-846 8260C	1/21/14	1/21/14 10:17	MFF
Ethylbenzene	ND	0.0011	mg/Kg dry	1		SW-846 8260C	1/21/14	1/21/14 10:17	MFF

Project Location: 163 Glen St., Somerville, MA

Sample Description:

Work Order: 14A0592

Date Received: 1/20/2014

Field Sample #: TRC-3 (0-8/10)

Sampled: 1/20/2014 12:00

Sample ID: 14A0592-03

Sample Matrix: Soil

Volatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Hexachlorobutadiene	ND	0.0022	mg/Kg dry	1		SW-846 8260C	1/21/14	1/21/14 10:17	MFF
2-Hexanone (MBK)	ND	0.011	mg/Kg dry	1		SW-846 8260C	1/21/14	1/21/14 10:17	MFF
Isopropylbenzene (Cumene)	ND	0.0011	mg/Kg dry	1		SW-846 8260C	1/21/14	1/21/14 10:17	MFF
p-Isopropyltoluene (p-Cymene)	ND	0.0011	mg/Kg dry	1		SW-846 8260C	1/21/14	1/21/14 10:17	MFF
Methyl tert-Butyl Ether (MTBE)	ND	0.0022	mg/Kg dry	1		SW-846 8260C	1/21/14	1/21/14 10:17	MFF
Methylene Chloride	ND	0.0055	mg/Kg dry	1		SW-846 8260C	1/21/14	1/21/14 10:17	MFF
4-Methyl-2-pentanone (MIBK)	ND	0.011	mg/Kg dry	1		SW-846 8260C	1/21/14	1/21/14 10:17	MFF
Naphthalene	0.079	0.0055	mg/Kg dry	1		SW-846 8260C	1/21/14	1/21/14 10:17	MFF
n-Propylbenzene	ND	0.0011	mg/Kg dry	1		SW-846 8260C	1/21/14	1/21/14 10:17	MFF
Styrene	ND	0.0011	mg/Kg dry	1		SW-846 8260C	1/21/14	1/21/14 10:17	MFF
1,1,1,2-Tetrachloroethane	ND	0.0011	mg/Kg dry	1		SW-846 8260C	1/21/14	1/21/14 10:17	MFF
1,1,2,2-Tetrachloroethane	ND	0.00055	mg/Kg dry	1		SW-846 8260C	1/21/14	1/21/14 10:17	MFF
Tetrachloroethylene	0.0057	0.0011	mg/Kg dry	1		SW-846 8260C	1/21/14	1/21/14 10:17	MFF
Tetrahydrofuran	ND	0.0055	mg/Kg dry	1	V-16	SW-846 8260C	1/21/14	1/21/14 10:17	MFF
Toluene	ND	0.0011	mg/Kg dry	1		SW-846 8260C	1/21/14	1/21/14 10:17	MFF
1,2,3-Trichlorobenzene	ND	0.0055	mg/Kg dry	1		SW-846 8260C	1/21/14	1/21/14 10:17	MFF
1,2,4-Trichlorobenzene	ND	0.0055	mg/Kg dry	1		SW-846 8260C	1/21/14	1/21/14 10:17	MFF
1,1,1-Trichloroethane	ND	0.0011	mg/Kg dry	1		SW-846 8260C	1/21/14	1/21/14 10:17	MFF
1,1,2-Trichloroethane	ND	0.0011	mg/Kg dry	1		SW-846 8260C	1/21/14	1/21/14 10:17	MFF
Trichloroethylene	ND	0.0011	mg/Kg dry	1		SW-846 8260C	1/21/14	1/21/14 10:17	MFF
Trichlorofluoromethane (Freon 11)	ND	0.0055	mg/Kg dry	1		SW-846 8260C	1/21/14	1/21/14 10:17	MFF
1,2,3-Trichloropropane	ND	0.0011	mg/Kg dry	1		SW-846 8260C	1/21/14	1/21/14 10:17	MFF
1,2,4-Trimethylbenzene	ND	0.0011	mg/Kg dry	1		SW-846 8260C	1/21/14	1/21/14 10:17	MFF
1,3,5-Trimethylbenzene	ND	0.0011	mg/Kg dry	1		SW-846 8260C	1/21/14	1/21/14 10:17	MFF
Vinyl Chloride	ND	0.0055	mg/Kg dry	1		SW-846 8260C	1/21/14	1/21/14 10:17	MFF
m+p Xylene	ND	0.0022	mg/Kg dry	1		SW-846 8260C	1/21/14	1/21/14 10:17	MFF
o-Xylene	ND	0.0011	mg/Kg dry	1		SW-846 8260C	1/21/14	1/21/14 10:17	MFF
Surrogates	% Recovery	Recovery Limits	Flag/Qual						
1,2-Dichloroethane-d4	101	70-130							
Toluene-d8	94.6	70-130							
4-Bromofluorobenzene	85.3	70-130							

Project Location: 163 Glen St., Somerville, MA

Sample Description:

Work Order: 14A0592

Date Received: 1/20/2014

Field Sample #: TRC-3 (0-8/10)

Sampled: 1/20/2014 12:00

Sample ID: 14A0592-03

Sample Matrix: Soil

Semivolatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Acenaphthene	5.5	0.20	mg/Kg dry	1		SW-846 8270D	1/22/14	1/25/14 10:46	CMR
Acenaphthylene	0.43	0.20	mg/Kg dry	1		SW-846 8270D	1/22/14	1/25/14 10:46	CMR
Anthracene	15	2.0	mg/Kg dry	10		SW-846 8270D	1/22/14	1/25/14 18:18	CMR
Benzo(a)anthracene	15	2.0	mg/Kg dry	10		SW-846 8270D	1/22/14	1/25/14 18:18	CMR
Benzo(a)pyrene	11	2.0	mg/Kg dry	10		SW-846 8270D	1/22/14	1/25/14 18:18	CMR
Benzo(b)fluoranthene	14	2.0	mg/Kg dry	10		SW-846 8270D	1/22/14	1/25/14 18:18	CMR
Benzo(g,h,i)perylene	4.1	0.20	mg/Kg dry	1		SW-846 8270D	1/22/14	1/25/14 10:46	CMR
Benzo(k)fluoranthene	6.3	2.0	mg/Kg dry	10		SW-846 8270D	1/22/14	1/25/14 18:18	CMR
Chrysene	13	2.0	mg/Kg dry	10		SW-846 8270D	1/22/14	1/25/14 18:18	CMR
Dibenz(a,h)anthracene	1.1	0.20	mg/Kg dry	1		SW-846 8270D	1/22/14	1/25/14 10:46	CMR
Fluoranthene	25	4.0	mg/Kg dry	20	R-05	SW-846 8270D	1/22/14	1/27/14 14:20	CMR
Fluorene	6.7	2.0	mg/Kg dry	10		SW-846 8270D	1/22/14	1/25/14 18:18	CMR
Indeno(1,2,3-cd)pyrene	4.6	0.20	mg/Kg dry	1		SW-846 8270D	1/22/14	1/25/14 10:46	CMR
2-Methylnaphthalene	2.9	0.20	mg/Kg dry	1		SW-846 8270D	1/22/14	1/25/14 10:46	CMR
Naphthalene	5.7	2.0	mg/Kg dry	10		SW-846 8270D	1/22/14	1/25/14 18:18	CMR
Phenanthrene	47	2.0	mg/Kg dry	10		SW-846 8270D	1/22/14	1/25/14 18:18	CMR
Pyrene	30	2.0	mg/Kg dry	10		SW-846 8270D	1/22/14	1/25/14 18:18	CMR
Surrogates	% Recovery	Recovery Limits			Flag/Qual				
Nitrobenzene-d5	73.1	30-130						1/25/14 10:46	
2-Fluorobiphenyl	91.2	30-130						1/25/14 10:46	
p-Terphenyl-d14	78.7	30-130						1/25/14 10:46	

Project Location: 163 Glen St., Somerville, MA

Sample Description:

Work Order: 14A0592

Date Received: 1/20/2014

Field Sample #: TRC-3 (0-8/10)

Sampled: 1/20/2014 12:00

Sample ID: 14A0592-03

Sample Matrix: Soil

Petroleum Hydrocarbons Analyses - EPH

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
C9-C18 Aliphatics	14	12	mg/Kg dry	1		MADEP-EPH-04-1.1	1/22/14	1/24/14 3:39	SCS
C19-C36 Aliphatics	170	12	mg/Kg dry	1		MADEP-EPH-04-1.1	1/22/14	1/24/14 3:39	SCS
Unadjusted C11-C22 Aromatics	920	120	mg/Kg dry	10		MADEP-EPH-04-1.1	1/22/14	1/24/14 10:29	SCS
C11-C22 Aromatics	620	120	mg/Kg dry	10		MADEP-EPH-04-1.1	1/22/14	1/24/14 10:29	SCS
Surrogates	% Recovery	Recovery Limits	Flag/Qual						
Chlorooctadecane (COD)	52.7	40-140						1/24/14 3:39	
o-Terphenyl (OTP)	72.1	40-140						1/24/14 3:39	
2-Bromonaphthalene	95.5	40-140						1/24/14 3:39	
2-Fluorobiphenyl	107	40-140						1/24/14 3:39	

Project Location: 163 Glen St., Somerville, MA

Sample Description:

Work Order: 14A0592

Date Received: 1/20/2014

Field Sample #: TRC-3 (0-8/10)

Sampled: 1/20/2014 12:00

Sample ID: 14A0592-03

Sample Matrix: Soil

Metals Analyses (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Antimony	ND	2.9	mg/Kg dry	1		SW-846 6010C	1/21/14	1/22/14 16:02	OP
Arsenic	ND	2.9	mg/Kg dry	1		SW-846 6010C	1/21/14	1/22/14 16:02	OP
Barium	52	2.9	mg/Kg dry	1		SW-846 6010C	1/21/14	1/22/14 16:02	OP
Beryllium	ND	0.29	mg/Kg dry	1		SW-846 6010C	1/21/14	1/22/14 16:02	OP
Cadmium	0.60	0.29	mg/Kg dry	1		SW-846 6010C	1/21/14	1/22/14 16:02	OP
Chromium	9.0	0.58	mg/Kg dry	1		SW-846 6010C	1/21/14	1/22/14 16:02	OP
Lead	130	0.87	mg/Kg dry	1		SW-846 6010C	1/21/14	1/22/14 16:02	OP
Mercury	0.046	0.029	mg/Kg dry	1		SW-846 7471B	1/21/14	1/22/14 14:10	SAJ
Nickel	10	0.58	mg/Kg dry	1		SW-846 6010C	1/21/14	1/22/14 16:02	OP
Selenium	ND	5.8	mg/Kg dry	1		SW-846 6010C	1/21/14	1/22/14 16:02	OP
Silver	ND	0.58	mg/Kg dry	1		SW-846 6010C	1/21/14	1/22/14 16:02	OP
Thallium	ND	2.9	mg/Kg dry	1		SW-846 6010C	1/21/14	1/22/14 16:02	OP
Vanadium	27	1.2	mg/Kg dry	1		SW-846 6010C	1/21/14	1/22/14 16:02	OP
Zinc	89	1.2	mg/Kg dry	1		SW-846 6010C	1/21/14	1/22/14 16:02	OP

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: 163 Glen St., Somerville, MA

Sample Description:

Work Order: 14A0592

Date Received: 1/20/2014

Field Sample #: TRC-3 (0-8/10)

Sampled: 1/20/2014 12:00

Sample ID: 14A0592-03

Sample Matrix: Soil

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	84.9		% Wt	1		SM 2540G	1/27/14	1/27/14 13:55	MXG

Project Location: 163 Glen St., Somerville, MA

Sample Description:

Work Order: 14A0592

Date Received: 1/20/2014

Field Sample #: TRC-4 (0-8/8)

Sampled: 1/20/2014 14:00

Sample ID: 14A0592-04

Sample Matrix: Soil

Volatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Acetone	ND	0.079	mg/Kg dry	1	V-16	SW-846 8260C	1/21/14	1/21/14 13:30	MFF
tert-Amyl Methyl Ether (TAME)	ND	0.00079	mg/Kg dry	1		SW-846 8260C	1/21/14	1/21/14 13:30	MFF
Benzene	ND	0.0016	mg/Kg dry	1		SW-846 8260C	1/21/14	1/21/14 13:30	MFF
Bromobenzene	ND	0.0016	mg/Kg dry	1		SW-846 8260C	1/21/14	1/21/14 13:30	MFF
Bromochloromethane	ND	0.0016	mg/Kg dry	1		SW-846 8260C	1/21/14	1/21/14 13:30	MFF
Bromodichloromethane	ND	0.0016	mg/Kg dry	1		SW-846 8260C	1/21/14	1/21/14 13:30	MFF
Bromoform	ND	0.0016	mg/Kg dry	1		SW-846 8260C	1/21/14	1/21/14 13:30	MFF
Bromomethane	ND	0.0079	mg/Kg dry	1		SW-846 8260C	1/21/14	1/21/14 13:30	MFF
2-Butanone (MEK)	ND	0.032	mg/Kg dry	1		SW-846 8260C	1/21/14	1/21/14 13:30	MFF
n-Butylbenzene	ND	0.0032	mg/Kg dry	1		SW-846 8260C	1/21/14	1/21/14 13:30	MFF
sec-Butylbenzene	ND	0.0016	mg/Kg dry	1		SW-846 8260C	1/21/14	1/21/14 13:30	MFF
tert-Butylbenzene	ND	0.0032	mg/Kg dry	1		SW-846 8260C	1/21/14	1/21/14 13:30	MFF
tert-Butyl Ethyl Ether (TBEE)	ND	0.00079	mg/Kg dry	1		SW-846 8260C	1/21/14	1/21/14 13:30	MFF
Carbon Disulfide	ND	0.0047	mg/Kg dry	1		SW-846 8260C	1/21/14	1/21/14 13:30	MFF
Carbon Tetrachloride	ND	0.0016	mg/Kg dry	1		SW-846 8260C	1/21/14	1/21/14 13:30	MFF
Chlorobenzene	ND	0.0016	mg/Kg dry	1		SW-846 8260C	1/21/14	1/21/14 13:30	MFF
Chlorodibromomethane	ND	0.00079	mg/Kg dry	1		SW-846 8260C	1/21/14	1/21/14 13:30	MFF
Chloroethane	ND	0.0079	mg/Kg dry	1		SW-846 8260C	1/21/14	1/21/14 13:30	MFF
Chloroform	ND	0.0032	mg/Kg dry	1		SW-846 8260C	1/21/14	1/21/14 13:30	MFF
Chloromethane	ND	0.0079	mg/Kg dry	1		SW-846 8260C	1/21/14	1/21/14 13:30	MFF
2-Chlorotoluene	ND	0.0016	mg/Kg dry	1		SW-846 8260C	1/21/14	1/21/14 13:30	MFF
4-Chlorotoluene	ND	0.0016	mg/Kg dry	1		SW-846 8260C	1/21/14	1/21/14 13:30	MFF
1,2-Dibromo-3-chloropropane (DBCP)	ND	0.0079	mg/Kg dry	1		SW-846 8260C	1/21/14	1/21/14 13:30	MFF
1,2-Dibromoethane (EDB)	ND	0.00079	mg/Kg dry	1		SW-846 8260C	1/21/14	1/21/14 13:30	MFF
Dibromomethane	ND	0.0016	mg/Kg dry	1		SW-846 8260C	1/21/14	1/21/14 13:30	MFF
1,2-Dichlorobenzene	ND	0.0016	mg/Kg dry	1		SW-846 8260C	1/21/14	1/21/14 13:30	MFF
1,3-Dichlorobenzene	ND	0.0016	mg/Kg dry	1		SW-846 8260C	1/21/14	1/21/14 13:30	MFF
1,4-Dichlorobenzene	ND	0.0016	mg/Kg dry	1		SW-846 8260C	1/21/14	1/21/14 13:30	MFF
Dichlorodifluoromethane (Freon 12)	ND	0.0079	mg/Kg dry	1	V-05	SW-846 8260C	1/21/14	1/21/14 13:30	MFF
1,1-Dichloroethane	ND	0.0016	mg/Kg dry	1		SW-846 8260C	1/21/14	1/21/14 13:30	MFF
1,2-Dichloroethane	ND	0.0016	mg/Kg dry	1		SW-846 8260C	1/21/14	1/21/14 13:30	MFF
1,1-Dichloroethylene	ND	0.0032	mg/Kg dry	1		SW-846 8260C	1/21/14	1/21/14 13:30	MFF
cis-1,2-Dichloroethylene	ND	0.0016	mg/Kg dry	1		SW-846 8260C	1/21/14	1/21/14 13:30	MFF
trans-1,2-Dichloroethylene	ND	0.0016	mg/Kg dry	1		SW-846 8260C	1/21/14	1/21/14 13:30	MFF
1,2-Dichloropropane	ND	0.0016	mg/Kg dry	1		SW-846 8260C	1/21/14	1/21/14 13:30	MFF
1,3-Dichloropropane	ND	0.00079	mg/Kg dry	1		SW-846 8260C	1/21/14	1/21/14 13:30	MFF
2,2-Dichloropropane	ND	0.0079	mg/Kg dry	1		SW-846 8260C	1/21/14	1/21/14 13:30	MFF
1,1-Dichloropropene	ND	0.0016	mg/Kg dry	1		SW-846 8260C	1/21/14	1/21/14 13:30	MFF
cis-1,3-Dichloropropene	ND	0.00079	mg/Kg dry	1		SW-846 8260C	1/21/14	1/21/14 13:30	MFF
trans-1,3-Dichloropropene	ND	0.0032	mg/Kg dry	1		SW-846 8260C	1/21/14	1/21/14 13:30	MFF
Diethyl Ether	ND	0.0079	mg/Kg dry	1	V-16	SW-846 8260C	1/21/14	1/21/14 13:30	MFF
Diisopropyl Ether (DIPE)	ND	0.00079	mg/Kg dry	1		SW-846 8260C	1/21/14	1/21/14 13:30	MFF
1,4-Dioxane	ND	0.079	mg/Kg dry	1	V-16	SW-846 8260C	1/21/14	1/21/14 13:30	MFF
Ethylbenzene	ND	0.0016	mg/Kg dry	1		SW-846 8260C	1/21/14	1/21/14 13:30	MFF

Project Location: 163 Glen St., Somerville, MA

Sample Description:

Work Order: 14A0592

Date Received: 1/20/2014

Field Sample #: TRC-4 (0-8/8)

Sampled: 1/20/2014 14:00

Sample ID: 14A0592-04

Sample Matrix: Soil

Volatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Hexachlorobutadiene	ND	0.0032	mg/Kg dry	1		SW-846 8260C	1/21/14	1/21/14 13:30	MFF
2-Hexanone (MBK)	ND	0.016	mg/Kg dry	1		SW-846 8260C	1/21/14	1/21/14 13:30	MFF
Isopropylbenzene (Cumene)	ND	0.0016	mg/Kg dry	1		SW-846 8260C	1/21/14	1/21/14 13:30	MFF
p-Isopropyltoluene (p-Cymene)	ND	0.0016	mg/Kg dry	1		SW-846 8260C	1/21/14	1/21/14 13:30	MFF
Methyl tert-Butyl Ether (MTBE)	ND	0.0032	mg/Kg dry	1		SW-846 8260C	1/21/14	1/21/14 13:30	MFF
Methylene Chloride	ND	0.0079	mg/Kg dry	1		SW-846 8260C	1/21/14	1/21/14 13:30	MFF
4-Methyl-2-pentanone (MIBK)	ND	0.016	mg/Kg dry	1		SW-846 8260C	1/21/14	1/21/14 13:30	MFF
Naphthalene	ND	0.0079	mg/Kg dry	1		SW-846 8260C	1/21/14	1/21/14 13:30	MFF
n-Propylbenzene	ND	0.0016	mg/Kg dry	1		SW-846 8260C	1/21/14	1/21/14 13:30	MFF
Styrene	ND	0.0016	mg/Kg dry	1		SW-846 8260C	1/21/14	1/21/14 13:30	MFF
1,1,1,2-Tetrachloroethane	ND	0.0016	mg/Kg dry	1		SW-846 8260C	1/21/14	1/21/14 13:30	MFF
1,1,2,2-Tetrachloroethane	ND	0.00079	mg/Kg dry	1		SW-846 8260C	1/21/14	1/21/14 13:30	MFF
Tetrachloroethylene	ND	0.0016	mg/Kg dry	1		SW-846 8260C	1/21/14	1/21/14 13:30	MFF
Tetrahydrofuran	ND	0.0079	mg/Kg dry	1	V-16	SW-846 8260C	1/21/14	1/21/14 13:30	MFF
Toluene	ND	0.0016	mg/Kg dry	1		SW-846 8260C	1/21/14	1/21/14 13:30	MFF
1,2,3-Trichlorobenzene	ND	0.0079	mg/Kg dry	1		SW-846 8260C	1/21/14	1/21/14 13:30	MFF
1,2,4-Trichlorobenzene	ND	0.0079	mg/Kg dry	1		SW-846 8260C	1/21/14	1/21/14 13:30	MFF
1,1,1-Trichloroethane	ND	0.0016	mg/Kg dry	1		SW-846 8260C	1/21/14	1/21/14 13:30	MFF
1,1,2-Trichloroethane	ND	0.0016	mg/Kg dry	1		SW-846 8260C	1/21/14	1/21/14 13:30	MFF
Trichloroethylene	ND	0.0016	mg/Kg dry	1		SW-846 8260C	1/21/14	1/21/14 13:30	MFF
Trichlorofluoromethane (Freon 11)	ND	0.0079	mg/Kg dry	1		SW-846 8260C	1/21/14	1/21/14 13:30	MFF
1,2,3-Trichloropropane	ND	0.0016	mg/Kg dry	1		SW-846 8260C	1/21/14	1/21/14 13:30	MFF
1,2,4-Trimethylbenzene	ND	0.0016	mg/Kg dry	1		SW-846 8260C	1/21/14	1/21/14 13:30	MFF
1,3,5-Trimethylbenzene	ND	0.0016	mg/Kg dry	1		SW-846 8260C	1/21/14	1/21/14 13:30	MFF
Vinyl Chloride	ND	0.0079	mg/Kg dry	1		SW-846 8260C	1/21/14	1/21/14 13:30	MFF
m+p Xylene	ND	0.0032	mg/Kg dry	1		SW-846 8260C	1/21/14	1/21/14 13:30	MFF
o-Xylene	ND	0.0016	mg/Kg dry	1		SW-846 8260C	1/21/14	1/21/14 13:30	MFF
Surrogates	% Recovery	Recovery Limits	Flag/Qual						
1,2-Dichloroethane-d4	107	70-130							
Toluene-d8	99.2	70-130							
4-Bromofluorobenzene	101	70-130							

Project Location: 163 Glen St., Somerville, MA

Sample Description:

Work Order: 14A0592

Date Received: 1/20/2014

Field Sample #: TRC-4 (0-8/8)

Sampled: 1/20/2014 14:00

Sample ID: 14A0592-04

Sample Matrix: Soil

Semivolatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Acenaphthene	ND	0.22	mg/Kg dry	1		SW-846 8270D	1/22/14	1/25/14 11:18	CMR
Acenaphthylene	ND	0.22	mg/Kg dry	1		SW-846 8270D	1/22/14	1/25/14 11:18	CMR
Anthracene	ND	0.22	mg/Kg dry	1		SW-846 8270D	1/22/14	1/25/14 11:18	CMR
Benzo(a)anthracene	ND	0.22	mg/Kg dry	1		SW-846 8270D	1/22/14	1/25/14 11:18	CMR
Benzo(a)pyrene	ND	0.22	mg/Kg dry	1		SW-846 8270D	1/22/14	1/25/14 11:18	CMR
Benzo(b)fluoranthene	ND	0.22	mg/Kg dry	1		SW-846 8270D	1/22/14	1/25/14 11:18	CMR
Benzo(g,h,i)perylene	ND	0.22	mg/Kg dry	1		SW-846 8270D	1/22/14	1/25/14 11:18	CMR
Benzo(k)fluoranthene	ND	0.22	mg/Kg dry	1		SW-846 8270D	1/22/14	1/25/14 11:18	CMR
Chrysene	ND	0.22	mg/Kg dry	1		SW-846 8270D	1/22/14	1/25/14 11:18	CMR
Dibenz(a,h)anthracene	ND	0.22	mg/Kg dry	1		SW-846 8270D	1/22/14	1/25/14 11:18	CMR
Fluoranthene	ND	0.22	mg/Kg dry	1	R-05	SW-846 8270D	1/22/14	1/25/14 11:18	CMR
Fluorene	ND	0.22	mg/Kg dry	1		SW-846 8270D	1/22/14	1/25/14 11:18	CMR
Indeno(1,2,3-cd)pyrene	ND	0.22	mg/Kg dry	1		SW-846 8270D	1/22/14	1/25/14 11:18	CMR
2-Methylnaphthalene	ND	0.22	mg/Kg dry	1		SW-846 8270D	1/22/14	1/25/14 11:18	CMR
Naphthalene	ND	0.22	mg/Kg dry	1		SW-846 8270D	1/22/14	1/25/14 11:18	CMR
Phenanthrene	ND	0.22	mg/Kg dry	1		SW-846 8270D	1/22/14	1/25/14 11:18	CMR
Pyrene	ND	0.22	mg/Kg dry	1		SW-846 8270D	1/22/14	1/25/14 11:18	CMR
Surrogates	% Recovery	Recovery Limits			Flag/Qual				
Nitrobenzene-d5	67.3	30-130						1/25/14 11:18	
2-Fluorobiphenyl	88.8	30-130						1/25/14 11:18	
p-Terphenyl-d14	83.9	30-130						1/25/14 11:18	

Project Location: 163 Glen St., Somerville, MA

Sample Description:

Work Order: 14A0592

Date Received: 1/20/2014

Field Sample #: TRC-4 (0-8/8)

Sampled: 1/20/2014 14:00

Sample ID: 14A0592-04

Sample Matrix: Soil

Petroleum Hydrocarbons Analyses - EPH

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
C9-C18 Aliphatics	ND	13	mg/Kg dry	1		MADEP-EPH-04-1.1	1/22/14	1/24/14 2:16	SCS
C19-C36 Aliphatics	ND	13	mg/Kg dry	1		MADEP-EPH-04-1.1	1/22/14	1/24/14 2:16	SCS
Unadjusted C11-C22 Aromatics	16	13	mg/Kg dry	1		MADEP-EPH-04-1.1	1/22/14	1/24/14 2:16	SCS
C11-C22 Aromatics	14	13	mg/Kg dry	1		MADEP-EPH-04-1.1	1/22/14	1/24/14 2:16	SCS
Surrogates	% Recovery		Recovery Limits		Flag/Qual				
Chlorooctadecane (COD)	63.6		40-140				1/24/14 2:16		
o-Terphenyl (OTP)	73.2		40-140				1/24/14 2:16		
2-Bromonaphthalene	97.6		40-140				1/24/14 2:16		
2-Fluorobiphenyl	105		40-140				1/24/14 2:16		

Project Location: 163 Glen St., Somerville, MA

Sample Description:

Work Order: 14A0592

Date Received: 1/20/2014

Field Sample #: TRC-4 (0-8/8)

Sampled: 1/20/2014 14:00

Sample ID: 14A0592-04

Sample Matrix: Soil

Metals Analyses (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Antimony	ND	3.3	mg/Kg dry	1		SW-846 6010C	1/21/14	1/22/14 16:08	OP
Arsenic	9.8	3.3	mg/Kg dry	1		SW-846 6010C	1/21/14	1/22/14 16:08	OP
Barium	110	3.3	mg/Kg dry	1		SW-846 6010C	1/21/14	1/22/14 16:08	OP
Beryllium	ND	0.33	mg/Kg dry	1		SW-846 6010C	1/21/14	1/22/14 16:08	OP
Cadmium	1.2	0.33	mg/Kg dry	1		SW-846 6010C	1/21/14	1/22/14 16:08	OP
Chromium	51	0.65	mg/Kg dry	1		SW-846 6010C	1/21/14	1/22/14 16:08	OP
Lead	27	0.98	mg/Kg dry	1		SW-846 6010C	1/21/14	1/22/14 16:08	OP
Mercury	0.039	0.033	mg/Kg dry	1		SW-846 7471B	1/21/14	1/22/14 14:16	SAJ
Nickel	32	0.65	mg/Kg dry	1		SW-846 6010C	1/21/14	1/22/14 16:08	OP
Selenium	ND	6.5	mg/Kg dry	1		SW-846 6010C	1/21/14	1/22/14 16:08	OP
Silver	ND	0.65	mg/Kg dry	1		SW-846 6010C	1/21/14	1/22/14 16:08	OP
Thallium	ND	6.5	mg/Kg dry	2	DL-04	SW-846 6010C	1/21/14	1/23/14 17:08	OP
Vanadium	74	1.3	mg/Kg dry	1		SW-846 6010C	1/21/14	1/22/14 16:08	OP
Zinc	89	1.3	mg/Kg dry	1		SW-846 6010C	1/21/14	1/22/14 16:08	OP

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: 163 Glen St., Somerville, MA

Sample Description:

Work Order: 14A0592

Date Received: 1/20/2014

Field Sample #: TRC-4 (0-8/8)

Sampled: 1/20/2014 14:00

Sample ID: 14A0592-04

Sample Matrix: Soil

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	76.0		% Wt	1		SM 2540G	1/27/14	1/27/14 13:55	MXG

Project Location: 163 Glen St., Somerville, MA

Sample Description:

Work Order: 14A0592

Date Received: 1/20/2014

Field Sample #: Dup-1

Sampled: 1/20/2014 00:00

Sample ID: 14A0592-05

Sample Matrix: Soil

Volatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Acetone	ND	0.054	mg/Kg dry	1	V-16	SW-846 8260C	1/21/14	1/21/14 11:12	MFF
tert-Amyl Methyl Ether (TAME)	ND	0.00054	mg/Kg dry	1		SW-846 8260C	1/21/14	1/21/14 11:12	MFF
Benzene	ND	0.0011	mg/Kg dry	1		SW-846 8260C	1/21/14	1/21/14 11:12	MFF
Bromobenzene	ND	0.0011	mg/Kg dry	1		SW-846 8260C	1/21/14	1/21/14 11:12	MFF
Bromochloromethane	ND	0.0011	mg/Kg dry	1		SW-846 8260C	1/21/14	1/21/14 11:12	MFF
Bromodichloromethane	ND	0.0011	mg/Kg dry	1		SW-846 8260C	1/21/14	1/21/14 11:12	MFF
Bromoform	ND	0.0011	mg/Kg dry	1		SW-846 8260C	1/21/14	1/21/14 11:12	MFF
Bromomethane	ND	0.0054	mg/Kg dry	1		SW-846 8260C	1/21/14	1/21/14 11:12	MFF
2-Butanone (MEK)	ND	0.021	mg/Kg dry	1		SW-846 8260C	1/21/14	1/21/14 11:12	MFF
n-Butylbenzene	ND	0.0021	mg/Kg dry	1		SW-846 8260C	1/21/14	1/21/14 11:12	MFF
sec-Butylbenzene	ND	0.0011	mg/Kg dry	1		SW-846 8260C	1/21/14	1/21/14 11:12	MFF
tert-Butylbenzene	ND	0.0021	mg/Kg dry	1		SW-846 8260C	1/21/14	1/21/14 11:12	MFF
tert-Butyl Ethyl Ether (TBEE)	ND	0.00054	mg/Kg dry	1		SW-846 8260C	1/21/14	1/21/14 11:12	MFF
Carbon Disulfide	ND	0.0032	mg/Kg dry	1		SW-846 8260C	1/21/14	1/21/14 11:12	MFF
Carbon Tetrachloride	ND	0.0011	mg/Kg dry	1		SW-846 8260C	1/21/14	1/21/14 11:12	MFF
Chlorobenzene	ND	0.0011	mg/Kg dry	1		SW-846 8260C	1/21/14	1/21/14 11:12	MFF
Chlorodibromomethane	ND	0.00054	mg/Kg dry	1		SW-846 8260C	1/21/14	1/21/14 11:12	MFF
Chloroethane	ND	0.0054	mg/Kg dry	1		SW-846 8260C	1/21/14	1/21/14 11:12	MFF
Chloroform	ND	0.0021	mg/Kg dry	1		SW-846 8260C	1/21/14	1/21/14 11:12	MFF
Chloromethane	ND	0.0054	mg/Kg dry	1		SW-846 8260C	1/21/14	1/21/14 11:12	MFF
2-Chlorotoluene	ND	0.0011	mg/Kg dry	1		SW-846 8260C	1/21/14	1/21/14 11:12	MFF
4-Chlorotoluene	ND	0.0011	mg/Kg dry	1		SW-846 8260C	1/21/14	1/21/14 11:12	MFF
1,2-Dibromo-3-chloropropane (DBCP)	ND	0.0054	mg/Kg dry	1		SW-846 8260C	1/21/14	1/21/14 11:12	MFF
1,2-Dibromoethane (EDB)	ND	0.00054	mg/Kg dry	1		SW-846 8260C	1/21/14	1/21/14 11:12	MFF
Dibromomethane	ND	0.0011	mg/Kg dry	1		SW-846 8260C	1/21/14	1/21/14 11:12	MFF
1,2-Dichlorobenzene	ND	0.0011	mg/Kg dry	1		SW-846 8260C	1/21/14	1/21/14 11:12	MFF
1,3-Dichlorobenzene	ND	0.0011	mg/Kg dry	1		SW-846 8260C	1/21/14	1/21/14 11:12	MFF
1,4-Dichlorobenzene	ND	0.0011	mg/Kg dry	1		SW-846 8260C	1/21/14	1/21/14 11:12	MFF
Dichlorodifluoromethane (Freon 12)	ND	0.0054	mg/Kg dry	1	V-05	SW-846 8260C	1/21/14	1/21/14 11:12	MFF
1,1-Dichloroethane	ND	0.0011	mg/Kg dry	1		SW-846 8260C	1/21/14	1/21/14 11:12	MFF
1,2-Dichloroethane	ND	0.0011	mg/Kg dry	1		SW-846 8260C	1/21/14	1/21/14 11:12	MFF
1,1-Dichloroethylene	ND	0.0021	mg/Kg dry	1		SW-846 8260C	1/21/14	1/21/14 11:12	MFF
cis-1,2-Dichloroethylene	ND	0.0011	mg/Kg dry	1		SW-846 8260C	1/21/14	1/21/14 11:12	MFF
trans-1,2-Dichloroethylene	ND	0.0011	mg/Kg dry	1		SW-846 8260C	1/21/14	1/21/14 11:12	MFF
1,2-Dichloropropane	ND	0.0011	mg/Kg dry	1		SW-846 8260C	1/21/14	1/21/14 11:12	MFF
1,3-Dichloropropane	ND	0.00054	mg/Kg dry	1		SW-846 8260C	1/21/14	1/21/14 11:12	MFF
2,2-Dichloropropane	ND	0.0054	mg/Kg dry	1		SW-846 8260C	1/21/14	1/21/14 11:12	MFF
1,1-Dichloropropene	ND	0.0011	mg/Kg dry	1		SW-846 8260C	1/21/14	1/21/14 11:12	MFF
cis-1,3-Dichloropropene	ND	0.00054	mg/Kg dry	1		SW-846 8260C	1/21/14	1/21/14 11:12	MFF
trans-1,3-Dichloropropene	ND	0.0021	mg/Kg dry	1		SW-846 8260C	1/21/14	1/21/14 11:12	MFF
Diethyl Ether	ND	0.0054	mg/Kg dry	1	V-16	SW-846 8260C	1/21/14	1/21/14 11:12	MFF
Diisopropyl Ether (DIPE)	ND	0.00054	mg/Kg dry	1		SW-846 8260C	1/21/14	1/21/14 11:12	MFF
1,4-Dioxane	ND	0.054	mg/Kg dry	1	V-16	SW-846 8260C	1/21/14	1/21/14 11:12	MFF
Ethylbenzene	ND	0.0011	mg/Kg dry	1		SW-846 8260C	1/21/14	1/21/14 11:12	MFF

Project Location: 163 Glen St., Somerville, MA

Sample Description:

Work Order: 14A0592

Date Received: 1/20/2014

Field Sample #: Dup-1

Sampled: 1/20/2014 00:00

Sample ID: 14A0592-05

Sample Matrix: Soil

Volatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Hexachlorobutadiene	ND	0.0021	mg/Kg dry	1		SW-846 8260C	1/21/14	1/21/14 11:12	MFF
2-Hexanone (MBK)	ND	0.011	mg/Kg dry	1		SW-846 8260C	1/21/14	1/21/14 11:12	MFF
Isopropylbenzene (Cumene)	ND	0.0011	mg/Kg dry	1		SW-846 8260C	1/21/14	1/21/14 11:12	MFF
p-Isopropyltoluene (p-Cymene)	ND	0.0011	mg/Kg dry	1		SW-846 8260C	1/21/14	1/21/14 11:12	MFF
Methyl tert-Butyl Ether (MTBE)	ND	0.0021	mg/Kg dry	1		SW-846 8260C	1/21/14	1/21/14 11:12	MFF
Methylene Chloride	ND	0.0054	mg/Kg dry	1		SW-846 8260C	1/21/14	1/21/14 11:12	MFF
4-Methyl-2-pentanone (MIBK)	ND	0.011	mg/Kg dry	1		SW-846 8260C	1/21/14	1/21/14 11:12	MFF
Naphthalene	0.049	0.0054	mg/Kg dry	1		SW-846 8260C	1/21/14	1/21/14 11:12	MFF
n-Propylbenzene	ND	0.0011	mg/Kg dry	1		SW-846 8260C	1/21/14	1/21/14 11:12	MFF
Styrene	ND	0.0011	mg/Kg dry	1		SW-846 8260C	1/21/14	1/21/14 11:12	MFF
1,1,1,2-Tetrachloroethane	ND	0.0011	mg/Kg dry	1		SW-846 8260C	1/21/14	1/21/14 11:12	MFF
1,1,2,2-Tetrachloroethane	ND	0.00054	mg/Kg dry	1		SW-846 8260C	1/21/14	1/21/14 11:12	MFF
Tetrachloroethylene	0.0015	0.0011	mg/Kg dry	1		SW-846 8260C	1/21/14	1/21/14 11:12	MFF
Tetrahydrofuran	ND	0.0054	mg/Kg dry	1	V-16	SW-846 8260C	1/21/14	1/21/14 11:12	MFF
Toluene	ND	0.0011	mg/Kg dry	1		SW-846 8260C	1/21/14	1/21/14 11:12	MFF
1,2,3-Trichlorobenzene	ND	0.0054	mg/Kg dry	1		SW-846 8260C	1/21/14	1/21/14 11:12	MFF
1,2,4-Trichlorobenzene	ND	0.0054	mg/Kg dry	1		SW-846 8260C	1/21/14	1/21/14 11:12	MFF
1,1,1-Trichloroethane	ND	0.0011	mg/Kg dry	1		SW-846 8260C	1/21/14	1/21/14 11:12	MFF
1,1,2-Trichloroethane	ND	0.0011	mg/Kg dry	1		SW-846 8260C	1/21/14	1/21/14 11:12	MFF
Trichloroethylene	ND	0.0011	mg/Kg dry	1		SW-846 8260C	1/21/14	1/21/14 11:12	MFF
Trichlorofluoromethane (Freon 11)	ND	0.0054	mg/Kg dry	1		SW-846 8260C	1/21/14	1/21/14 11:12	MFF
1,2,3-Trichloropropane	ND	0.0011	mg/Kg dry	1		SW-846 8260C	1/21/14	1/21/14 11:12	MFF
1,2,4-Trimethylbenzene	ND	0.0011	mg/Kg dry	1		SW-846 8260C	1/21/14	1/21/14 11:12	MFF
1,3,5-Trimethylbenzene	ND	0.0011	mg/Kg dry	1		SW-846 8260C	1/21/14	1/21/14 11:12	MFF
Vinyl Chloride	ND	0.0054	mg/Kg dry	1		SW-846 8260C	1/21/14	1/21/14 11:12	MFF
m+p Xylene	ND	0.0021	mg/Kg dry	1		SW-846 8260C	1/21/14	1/21/14 11:12	MFF
o-Xylene	ND	0.0011	mg/Kg dry	1		SW-846 8260C	1/21/14	1/21/14 11:12	MFF
Surrogates	% Recovery	Recovery Limits	Flag/Qual						
1,2-Dichloroethane-d4	102	70-130							
Toluene-d8	94.4	70-130							
4-Bromofluorobenzene	90.5	70-130							

Project Location: 163 Glen St., Somerville, MA

Sample Description:

Work Order: 14A0592

Date Received: 1/20/2014

Field Sample #: Dup-1

Sampled: 1/20/2014 00:00

Sample ID: 14A0592-05

Sample Matrix: Soil

Semivolatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Acenaphthene	6.1	3.8	mg/Kg dry	20		SW-846 8270D	1/22/14	1/25/14 19:22	CMR
Acenaphthylene	0.53	0.19	mg/Kg dry	1		SW-846 8270D	1/22/14	1/25/14 11:50	CMR
Anthracene	14	3.8	mg/Kg dry	20		SW-846 8270D	1/22/14	1/25/14 19:22	CMR
Benzo(a)anthracene	14	3.8	mg/Kg dry	20		SW-846 8270D	1/22/14	1/25/14 19:22	CMR
Benzo(a)pyrene	11	3.8	mg/Kg dry	20		SW-846 8270D	1/22/14	1/25/14 19:22	CMR
Benzo(b)fluoranthene	13	3.8	mg/Kg dry	20		SW-846 8270D	1/22/14	1/25/14 19:22	CMR
Benzo(g,h,i)perylene	4.7	3.8	mg/Kg dry	20		SW-846 8270D	1/22/14	1/25/14 19:22	CMR
Benzo(k)fluoranthene	6.1	3.8	mg/Kg dry	20		SW-846 8270D	1/22/14	1/25/14 19:22	CMR
Chrysene	12	3.8	mg/Kg dry	20		SW-846 8270D	1/22/14	1/25/14 19:22	CMR
Dibenz(a,h)anthracene	1.4	0.19	mg/Kg dry	1		SW-846 8270D	1/22/14	1/25/14 11:50	CMR
Fluoranthene	37	3.8	mg/Kg dry	20	R-05	SW-846 8270D	1/22/14	1/25/14 19:22	CMR
Fluorene	6.6	3.8	mg/Kg dry	20		SW-846 8270D	1/22/14	1/25/14 19:22	CMR
Indeno(1,2,3-cd)pyrene	5.1	3.8	mg/Kg dry	20		SW-846 8270D	1/22/14	1/25/14 19:22	CMR
2-Methylnaphthalene	3.6	0.19	mg/Kg dry	1		SW-846 8270D	1/22/14	1/25/14 11:50	CMR
Naphthalene	5.8	3.8	mg/Kg dry	20		SW-846 8270D	1/22/14	1/25/14 19:22	CMR
Phenanthrene	44	3.8	mg/Kg dry	20		SW-846 8270D	1/22/14	1/25/14 19:22	CMR
Pyrene	27	3.8	mg/Kg dry	20		SW-846 8270D	1/22/14	1/25/14 19:22	CMR
Surrogates	% Recovery	Recovery Limits	Flag/Qual						
Nitrobenzene-d5	78.3	30-130							
2-Fluorobiphenyl	97.2	30-130							
p-Terphenyl-d14	106	30-130							

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: 163 Glen St., Somerville, MA

Sample Description:

Work Order: 14A0592

Date Received: 1/20/2014

Field Sample #: Dup-1

Sampled: 1/20/2014 00:00

Sample ID: 14A0592-05

Sample Matrix: Soil

Petroleum Hydrocarbons Analyses - EPH

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
C9-C18 Aliphatics	13	11	mg/Kg dry	1		MADEP-EPH-04-1.1	1/22/14	1/24/14 3:18	SCS
C19-C36 Aliphatics	110	11	mg/Kg dry	1		MADEP-EPH-04-1.1	1/22/14	1/24/14 3:18	SCS
Unadjusted C11-C22 Aromatics	910	110	mg/Kg dry	10		MADEP-EPH-04-1.1	1/22/14	1/24/14 10:08	SCS
C11-C22 Aromatics	600	110	mg/Kg dry	10		MADEP-EPH-04-1.1	1/22/14	1/24/14 10:08	SCS
Surrogates	% Recovery	Recovery Limits	Flag/Qual						
Chlorooctadecane (COD)	53.6	40-140						1/24/14 3:18	
o-Terphenyl (OTP)	75.9	40-140						1/24/14 3:18	
2-Bromonaphthalene	97.3	40-140						1/24/14 3:18	
2-Fluorobiphenyl	110	40-140						1/24/14 3:18	

Project Location: 163 Glen St., Somerville, MA

Sample Description:

Work Order: 14A0592

Date Received: 1/20/2014

Field Sample #: Dup-1

Sampled: 1/20/2014 00:00

Sample ID: 14A0592-05

Sample Matrix: Soil

Metals Analyses (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Antimony	ND	2.8	mg/Kg dry	1		SW-846 6010C	1/21/14	1/22/14 16:12	OP
Arsenic	ND	2.8	mg/Kg dry	1		SW-846 6010C	1/21/14	1/22/14 16:12	OP
Barium	76	2.8	mg/Kg dry	1		SW-846 6010C	1/21/14	1/22/14 16:12	OP
Beryllium	ND	0.28	mg/Kg dry	1		SW-846 6010C	1/21/14	1/22/14 16:12	OP
Cadmium	0.56	0.28	mg/Kg dry	1		SW-846 6010C	1/21/14	1/22/14 16:12	OP
Chromium	12	0.55	mg/Kg dry	1		SW-846 6010C	1/21/14	1/22/14 16:12	OP
Lead	210	0.83	mg/Kg dry	1		SW-846 6010C	1/21/14	1/22/14 16:12	OP
Mercury	0.059	0.027	mg/Kg dry	1		SW-846 7471B	1/21/14	1/22/14 14:18	SAJ
Nickel	12	0.55	mg/Kg dry	1		SW-846 6010C	1/21/14	1/22/14 16:12	OP
Selenium	ND	5.5	mg/Kg dry	1		SW-846 6010C	1/21/14	1/22/14 16:12	OP
Silver	ND	0.55	mg/Kg dry	1		SW-846 6010C	1/21/14	1/22/14 16:12	OP
Thallium	ND	2.8	mg/Kg dry	1		SW-846 6010C	1/21/14	1/22/14 16:12	OP
Vanadium	29	1.1	mg/Kg dry	1		SW-846 6010C	1/21/14	1/22/14 16:12	OP
Zinc	85	1.1	mg/Kg dry	1		SW-846 6010C	1/21/14	1/22/14 16:12	OP

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Project Location: 163 Glen St., Somerville, MA

Sample Description:

Work Order: 14A0592

Date Received: 1/20/2014

Field Sample #: Dup-1

Sampled: 1/20/2014 00:00

Sample ID: 14A0592-05

Sample Matrix: Soil

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	89.7		% Wt	1		SM 2540G	1/27/14	1/27/14 13:55	MXG

Project Location: 163 Glen St., Somerville, MA

Sample Description:

Work Order: 14A0592

Date Received: 1/20/2014

Field Sample #: Trip Blank

Sampled: 1/20/2014 00:00

Sample ID: 14A0592-06

Sample Matrix: Trip Blank Soil

Volatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Acetone	ND	0.10	mg/Kg wet	1	V-16	SW-846 8260C	1/21/14	1/21/14 9:50	MFF
tert-Amyl Methyl Ether (TAME)	ND	0.0010	mg/Kg wet	1		SW-846 8260C	1/21/14	1/21/14 9:50	MFF
Benzene	ND	0.0020	mg/Kg wet	1		SW-846 8260C	1/21/14	1/21/14 9:50	MFF
Bromobenzene	ND	0.0020	mg/Kg wet	1		SW-846 8260C	1/21/14	1/21/14 9:50	MFF
Bromochloromethane	ND	0.0020	mg/Kg wet	1		SW-846 8260C	1/21/14	1/21/14 9:50	MFF
Bromodichloromethane	ND	0.0020	mg/Kg wet	1		SW-846 8260C	1/21/14	1/21/14 9:50	MFF
Bromoform	ND	0.0020	mg/Kg wet	1		SW-846 8260C	1/21/14	1/21/14 9:50	MFF
Bromomethane	ND	0.010	mg/Kg wet	1		SW-846 8260C	1/21/14	1/21/14 9:50	MFF
2-Butanone (MEK)	ND	0.040	mg/Kg wet	1		SW-846 8260C	1/21/14	1/21/14 9:50	MFF
n-Butylbenzene	ND	0.0040	mg/Kg wet	1		SW-846 8260C	1/21/14	1/21/14 9:50	MFF
sec-Butylbenzene	ND	0.0020	mg/Kg wet	1		SW-846 8260C	1/21/14	1/21/14 9:50	MFF
tert-Butylbenzene	ND	0.0040	mg/Kg wet	1		SW-846 8260C	1/21/14	1/21/14 9:50	MFF
tert-Butyl Ethyl Ether (TBEE)	ND	0.0010	mg/Kg wet	1		SW-846 8260C	1/21/14	1/21/14 9:50	MFF
Carbon Disulfide	ND	0.0060	mg/Kg wet	1		SW-846 8260C	1/21/14	1/21/14 9:50	MFF
Carbon Tetrachloride	ND	0.0020	mg/Kg wet	1		SW-846 8260C	1/21/14	1/21/14 9:50	MFF
Chlorobenzene	ND	0.0020	mg/Kg wet	1		SW-846 8260C	1/21/14	1/21/14 9:50	MFF
Chlorodibromomethane	ND	0.0010	mg/Kg wet	1		SW-846 8260C	1/21/14	1/21/14 9:50	MFF
Chloroethane	ND	0.010	mg/Kg wet	1		SW-846 8260C	1/21/14	1/21/14 9:50	MFF
Chloroform	ND	0.0040	mg/Kg wet	1		SW-846 8260C	1/21/14	1/21/14 9:50	MFF
Chloromethane	ND	0.010	mg/Kg wet	1		SW-846 8260C	1/21/14	1/21/14 9:50	MFF
2-Chlorotoluene	ND	0.0020	mg/Kg wet	1		SW-846 8260C	1/21/14	1/21/14 9:50	MFF
4-Chlorotoluene	ND	0.0020	mg/Kg wet	1		SW-846 8260C	1/21/14	1/21/14 9:50	MFF
1,2-Dibromo-3-chloropropane (DBCP)	ND	0.010	mg/Kg wet	1		SW-846 8260C	1/21/14	1/21/14 9:50	MFF
1,2-Dibromoethane (EDB)	ND	0.0010	mg/Kg wet	1		SW-846 8260C	1/21/14	1/21/14 9:50	MFF
Dibromomethane	ND	0.0020	mg/Kg wet	1		SW-846 8260C	1/21/14	1/21/14 9:50	MFF
1,2-Dichlorobenzene	ND	0.0020	mg/Kg wet	1		SW-846 8260C	1/21/14	1/21/14 9:50	MFF
1,3-Dichlorobenzene	ND	0.0020	mg/Kg wet	1		SW-846 8260C	1/21/14	1/21/14 9:50	MFF
1,4-Dichlorobenzene	ND	0.0020	mg/Kg wet	1		SW-846 8260C	1/21/14	1/21/14 9:50	MFF
Dichlorodifluoromethane (Freon 12)	ND	0.010	mg/Kg wet	1	V-05	SW-846 8260C	1/21/14	1/21/14 9:50	MFF
1,1-Dichloroethane	ND	0.0020	mg/Kg wet	1		SW-846 8260C	1/21/14	1/21/14 9:50	MFF
1,2-Dichloroethane	ND	0.0020	mg/Kg wet	1		SW-846 8260C	1/21/14	1/21/14 9:50	MFF
1,1-Dichloroethylene	ND	0.0040	mg/Kg wet	1		SW-846 8260C	1/21/14	1/21/14 9:50	MFF
cis-1,2-Dichloroethylene	ND	0.0020	mg/Kg wet	1		SW-846 8260C	1/21/14	1/21/14 9:50	MFF
trans-1,2-Dichloroethylene	ND	0.0020	mg/Kg wet	1		SW-846 8260C	1/21/14	1/21/14 9:50	MFF
1,2-Dichloropropane	ND	0.0020	mg/Kg wet	1		SW-846 8260C	1/21/14	1/21/14 9:50	MFF
1,3-Dichloropropane	ND	0.0010	mg/Kg wet	1		SW-846 8260C	1/21/14	1/21/14 9:50	MFF
2,2-Dichloropropane	ND	0.010	mg/Kg wet	1		SW-846 8260C	1/21/14	1/21/14 9:50	MFF
1,1-Dichloropropene	ND	0.0020	mg/Kg wet	1		SW-846 8260C	1/21/14	1/21/14 9:50	MFF
cis-1,3-Dichloropropene	ND	0.0010	mg/Kg wet	1		SW-846 8260C	1/21/14	1/21/14 9:50	MFF
trans-1,3-Dichloropropene	ND	0.0040	mg/Kg wet	1		SW-846 8260C	1/21/14	1/21/14 9:50	MFF
Diethyl Ether	ND	0.010	mg/Kg wet	1	V-16	SW-846 8260C	1/21/14	1/21/14 9:50	MFF
Diisopropyl Ether (DIPE)	ND	0.0010	mg/Kg wet	1		SW-846 8260C	1/21/14	1/21/14 9:50	MFF
1,4-Dioxane	ND	0.10	mg/Kg wet	1	V-16	SW-846 8260C	1/21/14	1/21/14 9:50	MFF
Ethylbenzene	ND	0.0020	mg/Kg wet	1		SW-846 8260C	1/21/14	1/21/14 9:50	MFF

Project Location: 163 Glen St., Somerville, MA

Sample Description:

Work Order: 14A0592

Date Received: 1/20/2014

Field Sample #: Trip Blank

Sampled: 1/20/2014 00:00

Sample ID: 14A0592-06

Sample Matrix: Trip Blank Soil

Volatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Hexachlorobutadiene	ND	0.0040	mg/Kg wet	1		SW-846 8260C	1/21/14	1/21/14 9:50	MFF
2-Hexanone (MBK)	ND	0.020	mg/Kg wet	1		SW-846 8260C	1/21/14	1/21/14 9:50	MFF
Isopropylbenzene (Cumene)	ND	0.0020	mg/Kg wet	1		SW-846 8260C	1/21/14	1/21/14 9:50	MFF
p-Isopropyltoluene (p-Cymene)	ND	0.0020	mg/Kg wet	1		SW-846 8260C	1/21/14	1/21/14 9:50	MFF
Methyl tert-Butyl Ether (MTBE)	ND	0.0040	mg/Kg wet	1		SW-846 8260C	1/21/14	1/21/14 9:50	MFF
Methylene Chloride	ND	0.010	mg/Kg wet	1		SW-846 8260C	1/21/14	1/21/14 9:50	MFF
4-Methyl-2-pentanone (MIBK)	ND	0.020	mg/Kg wet	1		SW-846 8260C	1/21/14	1/21/14 9:50	MFF
Naphthalene	ND	0.010	mg/Kg wet	1		SW-846 8260C	1/21/14	1/21/14 9:50	MFF
n-Propylbenzene	ND	0.0020	mg/Kg wet	1		SW-846 8260C	1/21/14	1/21/14 9:50	MFF
Styrene	ND	0.0020	mg/Kg wet	1		SW-846 8260C	1/21/14	1/21/14 9:50	MFF
1,1,1,2-Tetrachloroethane	ND	0.0020	mg/Kg wet	1		SW-846 8260C	1/21/14	1/21/14 9:50	MFF
1,1,2,2-Tetrachloroethane	ND	0.0010	mg/Kg wet	1		SW-846 8260C	1/21/14	1/21/14 9:50	MFF
Tetrachloroethylene	ND	0.0020	mg/Kg wet	1		SW-846 8260C	1/21/14	1/21/14 9:50	MFF
Tetrahydrofuran	ND	0.010	mg/Kg wet	1	V-16	SW-846 8260C	1/21/14	1/21/14 9:50	MFF
Toluene	ND	0.0020	mg/Kg wet	1		SW-846 8260C	1/21/14	1/21/14 9:50	MFF
1,2,3-Trichlorobenzene	ND	0.010	mg/Kg wet	1		SW-846 8260C	1/21/14	1/21/14 9:50	MFF
1,2,4-Trichlorobenzene	ND	0.010	mg/Kg wet	1		SW-846 8260C	1/21/14	1/21/14 9:50	MFF
1,1,1-Trichloroethane	ND	0.0020	mg/Kg wet	1		SW-846 8260C	1/21/14	1/21/14 9:50	MFF
1,1,2-Trichloroethane	ND	0.0020	mg/Kg wet	1		SW-846 8260C	1/21/14	1/21/14 9:50	MFF
Trichloroethylene	ND	0.0020	mg/Kg wet	1		SW-846 8260C	1/21/14	1/21/14 9:50	MFF
Trichlorofluoromethane (Freon 11)	ND	0.010	mg/Kg wet	1		SW-846 8260C	1/21/14	1/21/14 9:50	MFF
1,2,3-Trichloropropane	ND	0.0020	mg/Kg wet	1		SW-846 8260C	1/21/14	1/21/14 9:50	MFF
1,2,4-Trimethylbenzene	ND	0.0020	mg/Kg wet	1		SW-846 8260C	1/21/14	1/21/14 9:50	MFF
1,3,5-Trimethylbenzene	ND	0.0020	mg/Kg wet	1		SW-846 8260C	1/21/14	1/21/14 9:50	MFF
Vinyl Chloride	ND	0.010	mg/Kg wet	1		SW-846 8260C	1/21/14	1/21/14 9:50	MFF
m+p Xylene	ND	0.0040	mg/Kg wet	1		SW-846 8260C	1/21/14	1/21/14 9:50	MFF
o-Xylene	ND	0.0020	mg/Kg wet	1		SW-846 8260C	1/21/14	1/21/14 9:50	MFF
Surrogates	% Recovery	Recovery Limits	Flag/Qual						
1,2-Dichloroethane-d4	102	70-130							
Toluene-d8	98.3	70-130							
4-Bromofluorobenzene	100	70-130							

Sample Extraction Data

Prep Method: SW-846 3546-MADEP-EPH-04-1.1

Lab Number [Field ID]	Batch	Initial [g]	Final [mL]	Date
14A0592-01 [TRC-1 (0-8/11)]	B089137	20.0	2.00	01/22/14
14A0592-02 [TRC-2 (0-8/11)]	B089137	20.2	2.00	01/22/14
14A0592-03 [TRC-3 (0-8/10)]	B089137	20.0	2.00	01/22/14
14A0592-04 [TRC-4 (0-8/8)]	B089137	20.6	2.00	01/22/14
14A0592-05 [Dup-1]	B089137	20.0	2.00	01/22/14

Prep Method: % Solids-SM 2540G

Lab Number [Field ID]	Batch	Date
14A0592-01 [TRC-1 (0-8/11)]	B089368	01/27/14
14A0592-02 [TRC-2 (0-8/11)]	B089368	01/27/14
14A0592-03 [TRC-3 (0-8/10)]	B089368	01/27/14
14A0592-04 [TRC-4 (0-8/8)]	B089368	01/27/14
14A0592-05 [Dup-1]	B089368	01/27/14

Prep Method: SW-846 3050B-SW-846 6010C

Lab Number [Field ID]	Batch	Initial [g]	Final [mL]	Date
14A0592-01 [TRC-1 (0-8/11)]	B089090	1.03	50.0	01/21/14
14A0592-02 [TRC-2 (0-8/11)]	B089090	1.08	50.0	01/21/14
14A0592-03 [TRC-3 (0-8/10)]	B089090	1.02	50.0	01/21/14
14A0592-04 [TRC-4 (0-8/8)]	B089090	1.01	50.0	01/21/14
14A0592-05 [Dup-1]	B089090	1.00	50.0	01/21/14

Prep Method: SW-846 7471-SW-846 7471B

Lab Number [Field ID]	Batch	Initial [g]	Final [mL]	Date
14A0592-01 [TRC-1 (0-8/11)]	B089077	0.622	50.0	01/21/14
14A0592-03 [TRC-3 (0-8/10)]	B089077	0.616	50.0	01/21/14
14A0592-04 [TRC-4 (0-8/8)]	B089077	0.602	50.0	01/21/14
14A0592-05 [Dup-1]	B089077	0.627	50.0	01/21/14

Prep Method: SW-846 7471-SW-846 7471B

Lab Number [Field ID]	Batch	Initial [g]	Final [mL]	Date
14A0592-02RE1 [TRC-2 (0-8/11)]	B089270	0.603	50.0	01/23/14

Prep Method: SW-846 5035-SW-846 8260C

Lab Number [Field ID]	Batch	Initial [g]	Final [mL]	Date
14A0592-01 [TRC-1 (0-8/11)]	B089076	12.7	10.0	01/21/14
14A0592-02 [TRC-2 (0-8/11)]	B089076	9.36	10.0	01/21/14
14A0592-03 [TRC-3 (0-8/10)]	B089076	10.7	10.0	01/21/14
14A0592-04 [TRC-4 (0-8/8)]	B089076	8.33	10.0	01/21/14
14A0592-05 [Dup-1]	B089076	10.4	10.0	01/21/14
14A0592-06 [Trip Blank]	B089076	5.00	10.0	01/21/14

Sample Extraction Data**Prep Method: SW-846 3546-SW-846 8270D**

Lab Number [Field ID]	Batch	Initial [g]	Final [mL]	Date
14A0592-01 [TRC-1 (0-8/11)]	B089118	30.0	1.00	01/22/14
14A0592-02 [TRC-2 (0-8/11)]	B089118	30.2	1.00	01/22/14
14A0592-03 [TRC-3 (0-8/10)]	B089118	30.1	1.00	01/22/14
14A0592-03RE1 [TRC-3 (0-8/10)]	B089118	30.1	1.00	01/22/14
14A0592-03RE2 [TRC-3 (0-8/10)]	B089118	30.1	1.00	01/22/14
14A0592-04 [TRC-4 (0-8/8)]	B089118	30.0	1.00	01/22/14
14A0592-05 [Dup-1]	B089118	30.0	1.00	01/22/14
14A0592-05RE1 [Dup-1]	B089118	30.0	1.00	01/22/14

QUALITY CONTROL
Volatile Organic Compounds by GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B089076 - SW-846 5035										
Blank (B089076-BLK1)				Prepared & Analyzed: 01/21/14						
Acetone	ND	0.10	mg/Kg wet							V-16
tert-Amyl Methyl Ether (TAME)	ND	0.0010	mg/Kg wet							
Benzene	ND	0.0020	mg/Kg wet							
Bromobenzene	ND	0.0020	mg/Kg wet							
Bromochloromethane	ND	0.0020	mg/Kg wet							
Bromodichloromethane	ND	0.0020	mg/Kg wet							
Bromoform	ND	0.0020	mg/Kg wet							
Bromomethane	ND	0.010	mg/Kg wet							
2-Butanone (MEK)	ND	0.040	mg/Kg wet							
n-Butylbenzene	ND	0.0020	mg/Kg wet							
sec-Butylbenzene	ND	0.0020	mg/Kg wet							
tert-Butylbenzene	ND	0.0020	mg/Kg wet							
tert-Butyl Ethyl Ether (TBEE)	ND	0.0010	mg/Kg wet							
Carbon Disulfide	ND	0.0060	mg/Kg wet							
Carbon Tetrachloride	ND	0.0020	mg/Kg wet							
Chlorobenzene	ND	0.0020	mg/Kg wet							
Chlorodibromomethane	ND	0.0010	mg/Kg wet							
Chloroethane	ND	0.010	mg/Kg wet							
Chloroform	ND	0.0040	mg/Kg wet							
Chloromethane	ND	0.010	mg/Kg wet							
2-Chlorotoluene	ND	0.0020	mg/Kg wet							
4-Chlorotoluene	ND	0.0020	mg/Kg wet							
1,2-Dibromo-3-chloropropane (DBCP)	ND	0.0020	mg/Kg wet							
1,2-Dibromoethane (EDB)	ND	0.0010	mg/Kg wet							
Dibromomethane	ND	0.0020	mg/Kg wet							
1,2-Dichlorobenzene	ND	0.0020	mg/Kg wet							
1,3-Dichlorobenzene	ND	0.0020	mg/Kg wet							
1,4-Dichlorobenzene	ND	0.0020	mg/Kg wet							
Dichlorodifluoromethane (Freon 12)	ND	0.010	mg/Kg wet							V-05
1,1-Dichloroethane	ND	0.0020	mg/Kg wet							
1,2-Dichloroethane	ND	0.0020	mg/Kg wet							
1,1-Dichloroethylene	ND	0.0040	mg/Kg wet							
cis-1,2-Dichloroethylene	ND	0.0020	mg/Kg wet							
trans-1,2-Dichloroethylene	ND	0.0020	mg/Kg wet							
1,2-Dichloropropane	ND	0.0020	mg/Kg wet							
1,3-Dichloropropane	ND	0.0010	mg/Kg wet							
2,2-Dichloropropane	ND	0.0020	mg/Kg wet							
1,1-Dichloropropene	ND	0.0020	mg/Kg wet							
cis-1,3-Dichloropropene	ND	0.0010	mg/Kg wet							
trans-1,3-Dichloropropene	ND	0.0010	mg/Kg wet							
Diethyl Ether	ND	0.010	mg/Kg wet							V-16
Diisopropyl Ether (DIPE)	ND	0.0010	mg/Kg wet							
1,4-Dioxane	ND	0.10	mg/Kg wet							V-16
Ethylbenzene	ND	0.0020	mg/Kg wet							
Hexachlorobutadiene	ND	0.0020	mg/Kg wet							
2-Hexanone (MBK)	ND	0.020	mg/Kg wet							
Isopropylbenzene (Cumene)	ND	0.0020	mg/Kg wet							
p-Isopropyltoluene (p-Cymene)	ND	0.0020	mg/Kg wet							
Methyl tert-Butyl Ether (MTBE)	ND	0.0040	mg/Kg wet							
Methylene Chloride	ND	0.010	mg/Kg wet							
4-Methyl-2-pentanone (MIBK)	ND	0.020	mg/Kg wet							
Naphthalene	ND	0.0040	mg/Kg wet							

QUALITY CONTROL

Volatile Organic Compounds by GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch B089076 - SW-846 5035

Blank (B089076-BLK1)

Prepared & Analyzed: 01/21/14

n-Propylbenzene	ND	0.0020	mg/Kg wet							
Styrene	ND	0.0020	mg/Kg wet							
1,1,1,2-Tetrachloroethane	ND	0.0020	mg/Kg wet							
1,1,2,2-Tetrachloroethane	ND	0.0010	mg/Kg wet							
Tetrachloroethylene	ND	0.0020	mg/Kg wet							
Tetrahydrofuran	ND	0.010	mg/Kg wet							V-16
Toluene	ND	0.0020	mg/Kg wet							
1,2,3-Trichlorobenzene	ND	0.0020	mg/Kg wet							
1,2,4-Trichlorobenzene	ND	0.0020	mg/Kg wet							
1,1,1-Trichloroethane	ND	0.0020	mg/Kg wet							
1,1,2-Trichloroethane	ND	0.0020	mg/Kg wet							
Trichloroethylene	ND	0.0020	mg/Kg wet							
Trichlorofluoromethane (Freon 11)	ND	0.010	mg/Kg wet							
1,2,3-Trichloropropane	ND	0.0020	mg/Kg wet							
1,2,4-Trimethylbenzene	ND	0.0020	mg/Kg wet							
1,3,5-Trimethylbenzene	ND	0.0020	mg/Kg wet							
Vinyl Chloride	ND	0.010	mg/Kg wet							
m+p Xylene	ND	0.0040	mg/Kg wet							
o-Xylene	ND	0.0020	mg/Kg wet							
Surrogate: 1,2-Dichloroethane-d4	0.0508		mg/Kg wet	0.0500		102	70-130			
Surrogate: Toluene-d8	0.0493		mg/Kg wet	0.0500		98.6	70-130			
Surrogate: 4-Bromofluorobenzene	0.0494		mg/Kg wet	0.0500		98.9	70-130			

LCS (B089076-BS1)

Prepared & Analyzed: 01/21/14

Acetone	0.161	0.10	mg/Kg wet	0.200		80.5	40-160			V-16	†
tert-Amyl Methyl Ether (TAME)	0.0194	0.0010	mg/Kg wet	0.0200		97.2	70-130				
Benzene	0.0193	0.0020	mg/Kg wet	0.0200		96.7	70-130				
Bromobenzene	0.0200	0.0020	mg/Kg wet	0.0200		100	70-130				
Bromochloromethane	0.0202	0.0020	mg/Kg wet	0.0200		101	70-130				
Bromodichloromethane	0.0197	0.0020	mg/Kg wet	0.0200		98.4	70-130				
Bromoform	0.0198	0.0020	mg/Kg wet	0.0200		98.9	70-130				
Bromomethane	0.0136	0.010	mg/Kg wet	0.0200		68.2	40-160			L-14	†
2-Butanone (MEK)	0.174	0.040	mg/Kg wet	0.200		86.8	40-160				†
n-Butylbenzene	0.0206	0.0020	mg/Kg wet	0.0200		103	70-130				
sec-Butylbenzene	0.0215	0.0020	mg/Kg wet	0.0200		108	70-130				
tert-Butylbenzene	0.0194	0.0020	mg/Kg wet	0.0200		97.1	70-130				
tert-Butyl Ethyl Ether (TBEE)	0.0204	0.0010	mg/Kg wet	0.0200		102	70-130				
Carbon Disulfide	0.0182	0.0060	mg/Kg wet	0.0200		91.2	70-130				
Carbon Tetrachloride	0.0202	0.0020	mg/Kg wet	0.0200		101	70-130				
Chlorobenzene	0.0192	0.0020	mg/Kg wet	0.0200		96.0	70-130				
Chlorodibromomethane	0.0193	0.0010	mg/Kg wet	0.0200		96.7	70-130				
Chloroethane	0.0184	0.010	mg/Kg wet	0.0200		91.9	70-130				
Chloroform	0.0198	0.0040	mg/Kg wet	0.0200		99.0	70-130				
Chloromethane	0.0135	0.010	mg/Kg wet	0.0200		67.5	40-160			L-14	†
2-Chlorotoluene	0.0196	0.0020	mg/Kg wet	0.0200		98.1	70-130				
4-Chlorotoluene	0.0208	0.0020	mg/Kg wet	0.0200		104	70-130				
1,2-Dibromo-3-chloropropane (DBCP)	0.0185	0.0020	mg/Kg wet	0.0200		92.4	70-130				
1,2-Dibromoethane (EDB)	0.0196	0.0010	mg/Kg wet	0.0200		98.0	70-130				
Dibromomethane	0.0197	0.0020	mg/Kg wet	0.0200		98.6	70-130				
1,2-Dichlorobenzene	0.0198	0.0020	mg/Kg wet	0.0200		98.8	70-130				
1,3-Dichlorobenzene	0.0198	0.0020	mg/Kg wet	0.0200		98.9	70-130				
1,4-Dichlorobenzene	0.0194	0.0020	mg/Kg wet	0.0200		97.2	70-130				

QUALITY CONTROL

Volatile Organic Compounds by GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B089076 - SW-846 5035										
LCS (B089076-BS1)				Prepared & Analyzed: 01/21/14						
Dichlorodifluoromethane (Freon 12)	0.0103	0.010	mg/Kg wet	0.0200		51.6	40-160			V-05, L-14 †
1,1-Dichloroethane	0.0196	0.0020	mg/Kg wet	0.0200		98.0	70-130			
1,2-Dichloroethane	0.0204	0.0020	mg/Kg wet	0.0200		102	70-130			
1,1-Dichloroethylene	0.0195	0.0040	mg/Kg wet	0.0200		97.7	70-130			
cis-1,2-Dichloroethylene	0.0186	0.0020	mg/Kg wet	0.0200		92.9	70-130			
trans-1,2-Dichloroethylene	0.0194	0.0020	mg/Kg wet	0.0200		97.1	70-130			
1,2-Dichloropropane	0.0195	0.0020	mg/Kg wet	0.0200		97.6	70-130			
1,3-Dichloropropane	0.0201	0.0010	mg/Kg wet	0.0200		101	70-130			
2,2-Dichloropropane	0.0200	0.0020	mg/Kg wet	0.0200		99.9	70-130			
1,1-Dichloropropene	0.0207	0.0020	mg/Kg wet	0.0200		103	70-130			
cis-1,3-Dichloropropene	0.0189	0.0010	mg/Kg wet	0.0200		94.7	70-130			
trans-1,3-Dichloropropene	0.0190	0.0010	mg/Kg wet	0.0200		95.1	70-130			
Diethyl Ether	0.0187	0.010	mg/Kg wet	0.0200		93.3	70-130			V-16
Diisopropyl Ether (DIPE)	0.0194	0.0010	mg/Kg wet	0.0200		97.2	70-130			
1,4-Dioxane	0.167	0.10	mg/Kg wet	0.200		83.5	40-160			V-16 †
Ethylbenzene	0.0211	0.0020	mg/Kg wet	0.0200		105	70-130			
Hexachlorobutadiene	0.0217	0.0020	mg/Kg wet	0.0200		108	70-130			
2-Hexanone (MBK)	0.189	0.020	mg/Kg wet	0.200		94.4	40-160			†
Isopropylbenzene (Cumene)	0.0212	0.0020	mg/Kg wet	0.0200		106	70-130			
p-Isopropyltoluene (p-Cymene)	0.0208	0.0020	mg/Kg wet	0.0200		104	70-130			
Methyl tert-Butyl Ether (MTBE)	0.0206	0.0040	mg/Kg wet	0.0200		103	70-130			
Methylene Chloride	0.0180	0.010	mg/Kg wet	0.0200		89.9	70-130			
4-Methyl-2-pentanone (MIBK)	0.188	0.020	mg/Kg wet	0.200		93.8	40-160			†
Naphthalene	0.0165	0.0040	mg/Kg wet	0.0200		82.4	70-130			
n-Propylbenzene	0.0211	0.0020	mg/Kg wet	0.0200		105	70-130			
Styrene	0.0221	0.0020	mg/Kg wet	0.0200		110	70-130			
1,1,1,2-Tetrachloroethane	0.0199	0.0020	mg/Kg wet	0.0200		99.5	70-130			
1,1,1,2,2-Tetrachloroethane	0.0190	0.0010	mg/Kg wet	0.0200		94.9	70-130			
Tetrachloroethylene	0.0210	0.0020	mg/Kg wet	0.0200		105	70-130			
Tetrahydrofuran	0.0197	0.010	mg/Kg wet	0.0200		98.5	70-130			V-16
Toluene	0.0200	0.0020	mg/Kg wet	0.0200		99.8	70-130			
1,2,3-Trichlorobenzene	0.0185	0.0020	mg/Kg wet	0.0200		92.3	70-130			
1,2,4-Trichlorobenzene	0.0189	0.0020	mg/Kg wet	0.0200		94.5	70-130			
1,1,1-Trichloroethane	0.0209	0.0020	mg/Kg wet	0.0200		104	70-130			
1,1,2-Trichloroethane	0.0192	0.0020	mg/Kg wet	0.0200		96.0	70-130			
Trichloroethylene	0.0192	0.0020	mg/Kg wet	0.0200		95.9	70-130			
Trichlorofluoromethane (Freon 11)	0.0176	0.010	mg/Kg wet	0.0200		87.9	70-130			
1,2,3-Trichloropropane	0.0206	0.0020	mg/Kg wet	0.0200		103	70-130			
1,2,4-Trimethylbenzene	0.0213	0.0020	mg/Kg wet	0.0200		106	70-130			
1,3,5-Trimethylbenzene	0.0218	0.0020	mg/Kg wet	0.0200		109	70-130			
Vinyl Chloride	0.0142	0.010	mg/Kg wet	0.0200		71.0	70-130			
m+p Xylene	0.0426	0.0040	mg/Kg wet	0.0400		107	70-130			
o-Xylene	0.0208	0.0020	mg/Kg wet	0.0200		104	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.0504		mg/Kg wet	0.0500		101	70-130			
Surrogate: Toluene-d8	0.0489		mg/Kg wet	0.0500		97.8	70-130			
Surrogate: 4-Bromofluorobenzene	0.0497		mg/Kg wet	0.0500		99.5	70-130			

QUALITY CONTROL
Volatile Organic Compounds by GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B089076 - SW-846 5035										
LCS Dup (B089076-BSD1)				Prepared & Analyzed: 01/21/14						
Acetone	0.179	0.10	mg/Kg wet	0.200		89.5	40-160	10.7	20	V-16 †
tert-Amyl Methyl Ether (TAME)	0.0208	0.0010	mg/Kg wet	0.0200		104	70-130	6.86	20	
Benzene	0.0202	0.0020	mg/Kg wet	0.0200		101	70-130	4.15	20	
Bromobenzene	0.0208	0.0020	mg/Kg wet	0.0200		104	70-130	3.92	20	
Bromochloromethane	0.0214	0.0020	mg/Kg wet	0.0200		107	70-130	5.68	20	
Bromodichloromethane	0.0204	0.0020	mg/Kg wet	0.0200		102	70-130	3.69	20	
Bromoform	0.0203	0.0020	mg/Kg wet	0.0200		101	70-130	2.40	20	
Bromomethane	0.0147	0.010	mg/Kg wet	0.0200		73.5	40-160	7.48	20	†
2-Butanone (MEK)	0.197	0.040	mg/Kg wet	0.200		98.4	40-160	12.6	20	†
n-Butylbenzene	0.0203	0.0020	mg/Kg wet	0.0200		102	70-130	1.56	20	
sec-Butylbenzene	0.0216	0.0020	mg/Kg wet	0.0200		108	70-130	0.371	20	
tert-Butylbenzene	0.0197	0.0020	mg/Kg wet	0.0200		98.7	70-130	1.63	20	
tert-Butyl Ethyl Ether (TBEE)	0.0213	0.0010	mg/Kg wet	0.0200		106	70-130	4.03	20	
Carbon Disulfide	0.0183	0.0060	mg/Kg wet	0.0200		91.3	70-130	0.110	20	
Carbon Tetrachloride	0.0208	0.0020	mg/Kg wet	0.0200		104	70-130	2.54	20	
Chlorobenzene	0.0198	0.0020	mg/Kg wet	0.0200		99.2	70-130	3.28	20	
Chlorodibromomethane	0.0201	0.0010	mg/Kg wet	0.0200		100	70-130	3.75	20	
Chloroethane	0.0187	0.010	mg/Kg wet	0.0200		93.6	70-130	1.83	20	
Chloroform	0.0208	0.0040	mg/Kg wet	0.0200		104	70-130	4.73	20	
Chloromethane	0.0135	0.010	mg/Kg wet	0.0200		67.5	40-160	0.00	20	L-14 †
2-Chlorotoluene	0.0202	0.0020	mg/Kg wet	0.0200		101	70-130	2.91	20	
4-Chlorotoluene	0.0216	0.0020	mg/Kg wet	0.0200		108	70-130	4.05	20	
1,2-Dibromo-3-chloropropane (DBCP)	0.0198	0.0020	mg/Kg wet	0.0200		99.2	70-130	7.10	20	
1,2-Dibromoethane (EDB)	0.0208	0.0010	mg/Kg wet	0.0200		104	70-130	6.04	20	
Dibromomethane	0.0205	0.0020	mg/Kg wet	0.0200		103	70-130	4.07	20	
1,2-Dichlorobenzene	0.0202	0.0020	mg/Kg wet	0.0200		101	70-130	2.10	20	
1,3-Dichlorobenzene	0.0198	0.0020	mg/Kg wet	0.0200		98.8	70-130	0.101	20	
1,4-Dichlorobenzene	0.0198	0.0020	mg/Kg wet	0.0200		99.0	70-130	1.83	20	
Dichlorodifluoromethane (Freon 12)	0.0101	0.010	mg/Kg wet	0.0200		50.4	40-160	2.35	20	L-14, V-05 †
1,1-Dichloroethane	0.0208	0.0020	mg/Kg wet	0.0200		104	70-130	6.13	20	
1,2-Dichloroethane	0.0212	0.0020	mg/Kg wet	0.0200		106	70-130	4.04	20	
1,1-Dichloroethylene	0.0195	0.0040	mg/Kg wet	0.0200		97.6	70-130	0.102	20	
cis-1,2-Dichloroethylene	0.0199	0.0020	mg/Kg wet	0.0200		99.5	70-130	6.86	20	
trans-1,2-Dichloroethylene	0.0200	0.0020	mg/Kg wet	0.0200		100	70-130	3.04	20	
1,2-Dichloropropane	0.0205	0.0020	mg/Kg wet	0.0200		102	70-130	4.70	20	
1,3-Dichloropropane	0.0212	0.0010	mg/Kg wet	0.0200		106	70-130	5.03	20	
2,2-Dichloropropane	0.0204	0.0020	mg/Kg wet	0.0200		102	70-130	1.88	20	
1,1-Dichloropropene	0.0218	0.0020	mg/Kg wet	0.0200		109	70-130	5.36	20	
cis-1,3-Dichloropropene	0.0198	0.0010	mg/Kg wet	0.0200		98.8	70-130	4.24	20	
trans-1,3-Dichloropropene	0.0194	0.0010	mg/Kg wet	0.0200		97.1	70-130	2.08	20	
Diethyl Ether	0.0210	0.010	mg/Kg wet	0.0200		105	70-130	11.6	20	V-16
Diisopropyl Ether (DIPE)	0.0205	0.0010	mg/Kg wet	0.0200		102	70-130	5.11	20	
1,4-Dioxane	0.176	0.10	mg/Kg wet	0.200		87.8	40-160	5.01	20	V-16 †
Ethylbenzene	0.0215	0.0020	mg/Kg wet	0.0200		108	70-130	2.16	20	
Hexachlorobutadiene	0.0216	0.0020	mg/Kg wet	0.0200		108	70-130	0.462	20	
2-Hexanone (MBK)	0.209	0.020	mg/Kg wet	0.200		104	40-160	10.0	20	†
Isopropylbenzene (Cumene)	0.0217	0.0020	mg/Kg wet	0.0200		109	70-130	2.52	20	
p-Isopropyltoluene (p-Cymene)	0.0211	0.0020	mg/Kg wet	0.0200		106	70-130	1.43	20	
Methyl tert-Butyl Ether (MTBE)	0.0219	0.0040	mg/Kg wet	0.0200		110	70-130	6.02	20	
Methylene Chloride	0.0196	0.010	mg/Kg wet	0.0200		97.9	70-130	8.52	20	
4-Methyl-2-pentanone (MIBK)	0.202	0.020	mg/Kg wet	0.200		101	40-160	7.52	20	†
Naphthalene	0.0173	0.0040	mg/Kg wet	0.0200		86.6	70-130	4.97	20	

QUALITY CONTROL
Volatile Organic Compounds by GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B089076 - SW-846 5035										
LCS Dup (B089076-BSD1)				Prepared & Analyzed: 01/21/14						
n-Propylbenzene	0.0213	0.0020	mg/Kg wet	0.0200		107	70-130	1.32	20	
Styrene	0.0226	0.0020	mg/Kg wet	0.0200		113	70-130	2.42	20	
1,1,1,2-Tetrachloroethane	0.0207	0.0020	mg/Kg wet	0.0200		103	70-130	3.84	20	
1,1,2,2-Tetrachloroethane	0.0200	0.0010	mg/Kg wet	0.0200		100	70-130	5.43	20	
Tetrachloroethylene	0.0213	0.0020	mg/Kg wet	0.0200		107	70-130	1.80	20	
Tetrahydrofuran	0.0222	0.010	mg/Kg wet	0.0200		111	70-130	11.8	20	V-16
Toluene	0.0202	0.0020	mg/Kg wet	0.0200		101	70-130	1.29	20	
1,2,3-Trichlorobenzene	0.0189	0.0020	mg/Kg wet	0.0200		94.4	70-130	2.25	20	
1,2,4-Trichlorobenzene	0.0188	0.0020	mg/Kg wet	0.0200		94.0	70-130	0.531	20	
1,1,1-Trichloroethane	0.0214	0.0020	mg/Kg wet	0.0200		107	70-130	2.55	20	
1,1,2-Trichloroethane	0.0201	0.0020	mg/Kg wet	0.0200		100	70-130	4.38	20	
Trichloroethylene	0.0193	0.0020	mg/Kg wet	0.0200		96.4	70-130	0.520	20	
Trichlorofluoromethane (Freon 11)	0.0179	0.010	mg/Kg wet	0.0200		89.6	70-130	1.92	20	
1,2,3-Trichloropropane	0.0212	0.0020	mg/Kg wet	0.0200		106	70-130	2.97	20	
1,2,4-Trimethylbenzene	0.0215	0.0020	mg/Kg wet	0.0200		108	70-130	1.22	20	
1,3,5-Trimethylbenzene	0.0223	0.0020	mg/Kg wet	0.0200		111	70-130	2.36	20	
Vinyl Chloride	0.0144	0.010	mg/Kg wet	0.0200		72.2	70-130	1.68	20	
m+p Xylene	0.0441	0.0040	mg/Kg wet	0.0400		110	70-130	3.37	20	
o-Xylene	0.0217	0.0020	mg/Kg wet	0.0200		108	70-130	4.15	20	
Surrogate: 1,2-Dichloroethane-d4	0.0521		mg/Kg wet	0.0500		104	70-130			
Surrogate: Toluene-d8	0.0485		mg/Kg wet	0.0500		97.0	70-130			
Surrogate: 4-Bromofluorobenzene	0.0504		mg/Kg wet	0.0500		101	70-130			
Matrix Spike (B089076-MS1)				Source: 14A0592-01		Prepared & Analyzed: 01/21/14				
Acetone	0.0593	0.038	mg/Kg dry	0.0759	ND	78.2	70-130			V-16
tert-Amyl Methyl Ether (TAME)	0.00710	0.00038	mg/Kg dry	0.00759	ND	93.6	70-130			
Benzene	0.00734	0.00076	mg/Kg dry	0.00759	ND	96.8	70-130			
Bromobenzene	0.00730	0.00076	mg/Kg dry	0.00759	ND	96.2	70-130			
Bromochloromethane	0.00776	0.00076	mg/Kg dry	0.00759	ND	102	70-130			
Bromodichloromethane	0.00718	0.00076	mg/Kg dry	0.00759	ND	94.6	70-130			
Bromoform	0.00702	0.00076	mg/Kg dry	0.00759	ND	92.5	70-130			
Bromomethane	0.00583	0.0038	mg/Kg dry	0.00759	ND	76.9	70-130			
2-Butanone (MEK)	0.0607	0.015	mg/Kg dry	0.0759	ND	80.0	70-130			
n-Butylbenzene	0.00771	0.00076	mg/Kg dry	0.00759	ND	102	70-130			
sec-Butylbenzene	0.00787	0.00076	mg/Kg dry	0.00759	ND	104	70-130			
tert-Butylbenzene	0.00732	0.00076	mg/Kg dry	0.00759	ND	96.5	70-130			
tert-Butyl Ethyl Ether (TBEE)	0.00747	0.00038	mg/Kg dry	0.00759	ND	98.4	70-130			
Carbon Disulfide	0.00685	0.0023	mg/Kg dry	0.00759	ND	90.3	70-130			
Carbon Tetrachloride	0.00763	0.00076	mg/Kg dry	0.00759	ND	100	70-130			
Chlorobenzene	0.00733	0.00076	mg/Kg dry	0.00759	ND	96.6	70-130			
Chlorodibromomethane	0.00709	0.00038	mg/Kg dry	0.00759	ND	93.5	70-130			
Chloroethane	0.00695	0.0038	mg/Kg dry	0.00759	ND	91.6	70-130			
Chloroform	0.00744	0.0015	mg/Kg dry	0.00759	ND	98.1	70-130			
Chloromethane	0.00486	0.0038	mg/Kg dry	0.00759	ND	64.1	* 70-130			MS-07
2-Chlorotoluene	0.00738	0.00076	mg/Kg dry	0.00759	ND	97.3	70-130			
4-Chlorotoluene	0.00785	0.00076	mg/Kg dry	0.00759	ND	103	70-130			
1,2-Dibromo-3-chloropropane (DBCP)	0.00655	0.00076	mg/Kg dry	0.00759	ND	86.3	70-130			
1,2-Dibromoethane (EDB)	0.00734	0.00038	mg/Kg dry	0.00759	ND	96.7	70-130			
Dibromomethane	0.00749	0.00076	mg/Kg dry	0.00759	ND	98.7	70-130			
1,2-Dichlorobenzene	0.00728	0.00076	mg/Kg dry	0.00759	ND	95.9	70-130			
1,3-Dichlorobenzene	0.00746	0.00076	mg/Kg dry	0.00759	ND	98.3	70-130			
1,4-Dichlorobenzene	0.00722	0.00076	mg/Kg dry	0.00759	ND	95.2	70-130			

QUALITY CONTROL
Volatile Organic Compounds by GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B089076 - SW-846 5035										
Matrix Spike (B089076-MS1)	Source: 14A0592-01			Prepared & Analyzed: 01/21/14						
Dichlorodifluoromethane (Freon 12)	0.00354	0.0038	mg/Kg dry	0.00759	ND	46.6 *	70-130			MS-07, V-05
1,1-Dichloroethane	0.00749	0.00076	mg/Kg dry	0.00759	ND	98.7	70-130			
1,2-Dichloroethane	0.00769	0.00076	mg/Kg dry	0.00759	ND	101	70-130			
1,1-Dichloroethylene	0.00744	0.0015	mg/Kg dry	0.00759	ND	98.0	70-130			
cis-1,2-Dichloroethylene	0.00715	0.00076	mg/Kg dry	0.00759	ND	94.2	70-130			
trans-1,2-Dichloroethylene	0.00733	0.00076	mg/Kg dry	0.00759	ND	96.6	70-130			
1,2-Dichloropropane	0.00736	0.00076	mg/Kg dry	0.00759	ND	97.0	70-130			
1,3-Dichloropropane	0.00771	0.00038	mg/Kg dry	0.00759	ND	102	70-130			
2,2-Dichloropropane	0.00737	0.00076	mg/Kg dry	0.00759	ND	97.2	70-130			
1,1-Dichloropropene	0.00813	0.00076	mg/Kg dry	0.00759	ND	107	70-130			
cis-1,3-Dichloropropene	0.00709	0.00038	mg/Kg dry	0.00759	ND	93.5	70-130			
trans-1,3-Dichloropropene	0.00707	0.00038	mg/Kg dry	0.00759	ND	93.2	70-130			
Diethyl Ether	0.00723	0.0038	mg/Kg dry	0.00759	ND	95.3	70-130			V-16
Diisopropyl Ether (DIPE)	0.00719	0.00038	mg/Kg dry	0.00759	ND	94.8	70-130			
1,4-Dioxane	0.0568	0.038	mg/Kg dry	0.0759	ND	74.8	70-130			V-16
Ethylbenzene	0.00802	0.00076	mg/Kg dry	0.00759	ND	106	70-130			
Hexachlorobutadiene	0.00822	0.00076	mg/Kg dry	0.00759	ND	108	70-130			
2-Hexanone (MBK)	0.0662	0.0076	mg/Kg dry	0.0759	ND	87.2	70-130			
Isopropylbenzene (Cumene)	0.00781	0.00076	mg/Kg dry	0.00759	ND	103	70-130			
p-Isopropyltoluene (p-Cymene)	0.00794	0.00076	mg/Kg dry	0.00759	ND	105	70-130			
Methyl tert-Butyl Ether (MTBE)	0.00747	0.0015	mg/Kg dry	0.00759	ND	98.5	70-130			
Methylene Chloride	0.00800	0.0038	mg/Kg dry	0.00759	ND	105	70-130			
4-Methyl-2-pentanone (MIBK)	0.0655	0.0076	mg/Kg dry	0.0759	ND	86.4	70-130			
Naphthalene	0.00601	0.0015	mg/Kg dry	0.00759	ND	79.2	70-130			
n-Propylbenzene	0.00798	0.00076	mg/Kg dry	0.00759	ND	105	70-130			
Styrene	0.00825	0.00076	mg/Kg dry	0.00759	ND	109	70-130			
1,1,1,2-Tetrachloroethane	0.00771	0.00076	mg/Kg dry	0.00759	ND	102	70-130			
1,1,1,2,2-Tetrachloroethane	0.00678	0.00038	mg/Kg dry	0.00759	ND	89.4	70-130			
Tetrachloroethylene	0.0106	0.00076	mg/Kg dry	0.00759	0.00186	116	70-130			
Tetrahydrofuran	0.00643	0.0038	mg/Kg dry	0.00759	ND	84.7	70-130			V-16
Toluene	0.00755	0.00076	mg/Kg dry	0.00759	ND	99.5	70-130			
1,2,3-Trichlorobenzene	0.00689	0.00076	mg/Kg dry	0.00759	ND	90.8	70-130			
1,2,4-Trichlorobenzene	0.00705	0.00076	mg/Kg dry	0.00759	ND	92.9	70-130			
1,1,1-Trichloroethane	0.00783	0.00076	mg/Kg dry	0.00759	ND	103	70-130			
1,1,2-Trichloroethane	0.00749	0.00076	mg/Kg dry	0.00759	ND	98.7	70-130			
Trichloroethylene	0.00756	0.00076	mg/Kg dry	0.00759	ND	99.7	70-130			
Trichlorofluoromethane (Freon 11)	0.00679	0.0038	mg/Kg dry	0.00759	ND	89.5	70-130			
1,2,3-Trichloropropane	0.00744	0.00076	mg/Kg dry	0.00759	ND	98.1	70-130			
1,2,4-Trimethylbenzene	0.00807	0.00076	mg/Kg dry	0.00759	ND	106	70-130			
1,3,5-Trimethylbenzene	0.00813	0.00076	mg/Kg dry	0.00759	ND	107	70-130			
Vinyl Chloride	0.00535	0.0038	mg/Kg dry	0.00759	ND	70.5	70-130			
m+p Xylene	0.0161	0.0015	mg/Kg dry	0.0152	ND	106	70-130			
o-Xylene	0.00790	0.00076	mg/Kg dry	0.00759	ND	104	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.0187		mg/Kg dry	0.0190		98.6	70-130			
Surrogate: Toluene-d8	0.0189		mg/Kg dry	0.0190		99.4	70-130			
Surrogate: 4-Bromofluorobenzene	0.0185		mg/Kg dry	0.0190		97.6	70-130			

QUALITY CONTROL
Semivolatile Organic Compounds by GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B089118 - SW-846 3546										
Blank (B089118-BLK1)				Prepared: 01/22/14 Analyzed: 01/25/14						
Acenaphthene	ND	0.17	mg/Kg wet							
Acenaphthylene	ND	0.17	mg/Kg wet							
Anthracene	ND	0.17	mg/Kg wet							
Benzo(a)anthracene	ND	0.17	mg/Kg wet							
Benzo(a)pyrene	ND	0.17	mg/Kg wet							
Benzo(b)fluoranthene	ND	0.17	mg/Kg wet							
Benzo(g,h,i)perylene	ND	0.17	mg/Kg wet							
Benzo(k)fluoranthene	ND	0.17	mg/Kg wet							
Chrysene	ND	0.17	mg/Kg wet							
Dibenz(a,h)anthracene	ND	0.17	mg/Kg wet							
Fluoranthene	ND	0.17	mg/Kg wet							R-05
Fluorene	ND	0.17	mg/Kg wet							
Indeno(1,2,3-cd)pyrene	ND	0.17	mg/Kg wet							
2-Methylnaphthalene	ND	0.17	mg/Kg wet							
Naphthalene	ND	0.17	mg/Kg wet							
Phenanthrene	ND	0.17	mg/Kg wet							
Pyrene	ND	0.17	mg/Kg wet							
Surrogate: Nitrobenzene-d5	2.25		mg/Kg wet	3.33		67.4	30-130			
Surrogate: 2-Fluorobiphenyl	2.08		mg/Kg wet	3.33		62.5	30-130			
Surrogate: p-Terphenyl-d14	3.96		mg/Kg wet	3.33		119	30-130			
LCS (B089118-BS1)				Prepared: 01/22/14 Analyzed: 01/25/14						
Acenaphthene	1.26	0.17	mg/Kg wet	1.67		75.8	40-140			
Acenaphthylene	1.27	0.17	mg/Kg wet	1.67		76.0	40-140			
Anthracene	1.29	0.17	mg/Kg wet	1.67		77.4	40-140			
Benzo(a)anthracene	1.32	0.17	mg/Kg wet	1.67		78.9	40-140			
Benzo(a)pyrene	1.29	0.17	mg/Kg wet	1.67		77.3	40-140			
Benzo(b)fluoranthene	1.15	0.17	mg/Kg wet	1.67		69.2	40-140			
Benzo(g,h,i)perylene	1.51	0.17	mg/Kg wet	1.67		90.4	40-140			
Benzo(k)fluoranthene	1.16	0.17	mg/Kg wet	1.67		69.9	40-140			
Chrysene	1.26	0.17	mg/Kg wet	1.67		75.9	40-140			
Dibenz(a,h)anthracene	1.53	0.17	mg/Kg wet	1.67		92.1	40-140			
Fluoranthene	1.24	0.17	mg/Kg wet	1.67		74.3	40-140			R-05
Fluorene	1.41	0.17	mg/Kg wet	1.67		84.3	40-140			
Indeno(1,2,3-cd)pyrene	1.54	0.17	mg/Kg wet	1.67		92.5	40-140			
2-Methylnaphthalene	1.31	0.17	mg/Kg wet	1.67		78.5	40-140			
Naphthalene	1.19	0.17	mg/Kg wet	1.67		71.5	40-140			
Phenanthrene	1.29	0.17	mg/Kg wet	1.67		77.2	40-140			
Pyrene	1.50	0.17	mg/Kg wet	1.67		89.8	40-140			
Surrogate: Nitrobenzene-d5	2.12		mg/Kg wet	3.33		63.7	30-130			
Surrogate: 2-Fluorobiphenyl	2.03		mg/Kg wet	3.33		60.9	30-130			
Surrogate: p-Terphenyl-d14	2.59		mg/Kg wet	3.33		77.7	30-130			

QUALITY CONTROL
Semivolatile Organic Compounds by GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B089118 - SW-846 3546										
LCS Dup (B089118-BSD1)					Prepared: 01/22/14 Analyzed: 01/25/14					
Acenaphthene	1.22	0.17	mg/Kg wet	1.67		73.5	40-140	3.11	30	
Acenaphthylene	1.22	0.17	mg/Kg wet	1.67		73.3	40-140	3.67	30	
Anthracene	1.22	0.17	mg/Kg wet	1.67		72.9	40-140	5.91	30	
Benzo(a)anthracene	1.25	0.17	mg/Kg wet	1.67		74.8	40-140	5.31	30	
Benzo(a)pyrene	1.20	0.17	mg/Kg wet	1.67		72.1	40-140	6.91	30	
Benzo(b)fluoranthene	1.01	0.17	mg/Kg wet	1.67		60.9	40-140	12.8	30	
Benzo(g,h,i)perylene	1.29	0.17	mg/Kg wet	1.67		77.1	40-140	15.8	30	
Benzo(k)fluoranthene	1.03	0.17	mg/Kg wet	1.67		61.7	40-140	12.4	30	
Chrysene	1.20	0.17	mg/Kg wet	1.67		71.8	40-140	5.53	30	
Dibenz(a,h)anthracene	1.36	0.17	mg/Kg wet	1.67		81.5	40-140	12.2	30	
Fluoranthene	0.912	0.17	mg/Kg wet	1.67		54.7	40-140	30.3 *	30	R-05
Fluorene	1.27	0.17	mg/Kg wet	1.67		76.0	40-140	10.4	30	
Indeno(1,2,3-cd)pyrene	1.40	0.17	mg/Kg wet	1.67		84.3	40-140	9.28	30	
2-Methylnaphthalene	1.39	0.17	mg/Kg wet	1.67		83.6	40-140	6.27	30	
Naphthalene	1.16	0.17	mg/Kg wet	1.67		69.5	40-140	2.87	30	
Phenanthrene	1.22	0.17	mg/Kg wet	1.67		73.4	40-140	4.99	30	
Pyrene	1.49	0.17	mg/Kg wet	1.67		89.3	40-140	0.514	30	
Surrogate: Nitrobenzene-d5	1.99		mg/Kg wet	3.33		59.6	30-130			
Surrogate: 2-Fluorobiphenyl	1.97		mg/Kg wet	3.33		59.2	30-130			
Surrogate: p-Terphenyl-d14	2.58		mg/Kg wet	3.33		77.4	30-130			
Matrix Spike (B089118-MS1)					Source: 14A0592-02 Prepared: 01/22/14 Analyzed: 01/25/14					
Acenaphthene	1.65	0.20	mg/Kg dry	1.93	ND	85.3	40-140			
Acenaphthylene	1.69	0.20	mg/Kg dry	1.93	0.116	81.2	40-140			
Anthracene	1.76	0.20	mg/Kg dry	1.93	0.129	84.5	40-140			
Benzo(a)anthracene	1.99	0.20	mg/Kg dry	1.93	0.482	78.1	40-140			
Benzo(a)pyrene	2.25	0.20	mg/Kg dry	1.93	0.849	72.7	40-140			
Benzo(b)fluoranthene	2.51	0.20	mg/Kg dry	1.93	1.05	75.4	40-140			
Benzo(g,h,i)perylene	1.59	0.20	mg/Kg dry	1.93	0.549	53.8	40-140			
Benzo(k)fluoranthene	2.08	0.20	mg/Kg dry	1.93	0.393	87.4	40-140			
Chrysene	1.99	0.20	mg/Kg dry	1.93	0.598	71.9	40-140			
Dibenz(a,h)anthracene	1.33	0.20	mg/Kg dry	1.93	ND	69.0	40-140			
Fluoranthene	2.91	0.20	mg/Kg dry	1.93	0.802	109	40-140			
Fluorene	1.45	0.20	mg/Kg dry	1.93	ND	74.8	40-140			
Indeno(1,2,3-cd)pyrene	1.79	0.20	mg/Kg dry	1.93	0.547	64.5	40-140			
2-Methylnaphthalene	1.69	0.20	mg/Kg dry	1.93	0.232	75.7	40-140			
Naphthalene	1.55	0.20	mg/Kg dry	1.93	0.0930	75.6	40-140			
Phenanthrene	1.89	0.20	mg/Kg dry	1.93	0.378	78.2	40-140			
Pyrene	2.85	0.20	mg/Kg dry	1.93	0.994	95.8	40-140			
Surrogate: Nitrobenzene-d5	3.16		mg/Kg dry	3.87		81.8	30-130			
Surrogate: 2-Fluorobiphenyl	3.75		mg/Kg dry	3.87		97.1	30-130			
Surrogate: p-Terphenyl-d14	3.67		mg/Kg dry	3.87		95.1	30-130			

QUALITY CONTROL
Petroleum Hydrocarbons Analyses - EPH - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch B089137 - SW-846 3546
Blank (B089137-BLK1)

Prepared & Analyzed: 01/22/14

C9-C18 Aliphatics	ND	10	mg/Kg wet							
C19-C36 Aliphatics	ND	10	mg/Kg wet							
Unadjusted C11-C22 Aromatics	ND	10	mg/Kg wet							
C11-C22 Aromatics	ND	10	mg/Kg wet							
Acenaphthene	ND	0.10	mg/Kg wet							
Acenaphthylene	ND	0.10	mg/Kg wet							
Anthracene	ND	0.10	mg/Kg wet							
Benzo(a)anthracene	ND	0.10	mg/Kg wet							
Benzo(a)pyrene	ND	0.10	mg/Kg wet							
Benzo(b)fluoranthene	ND	0.10	mg/Kg wet							
Benzo(g,h,i)perylene	ND	0.10	mg/Kg wet							
Benzo(k)fluoranthene	ND	0.10	mg/Kg wet							
Chrysene	ND	0.10	mg/Kg wet							
Dibenz(a,h)anthracene	ND	0.10	mg/Kg wet							
Fluoranthene	ND	0.10	mg/Kg wet							
Fluorene	ND	0.10	mg/Kg wet							
Indeno(1,2,3-cd)pyrene	ND	0.10	mg/Kg wet							
2-Methylnaphthalene	ND	0.10	mg/Kg wet							
Naphthalene	ND	0.10	mg/Kg wet							
Phenanthrene	ND	0.10	mg/Kg wet							
Pyrene	ND	0.10	mg/Kg wet							
n-Decane	ND	0.10	mg/Kg wet							
n-Docosane	ND	0.10	mg/Kg wet							
n-Dodecane	ND	0.10	mg/Kg wet							
n-Eicosane	ND	0.10	mg/Kg wet							
n-Hexacosane	ND	0.10	mg/Kg wet							
n-Hexadecane	ND	0.10	mg/Kg wet							
n-Hexatriacontane	ND	0.10	mg/Kg wet							
n-Nonadecane	ND	0.10	mg/Kg wet							
n-Nonane	ND	0.10	mg/Kg wet							
n-Octacosane	ND	0.10	mg/Kg wet							
n-Octadecane	ND	0.10	mg/Kg wet							
n-Tetracosane	ND	0.10	mg/Kg wet							
n-Tetradecane	ND	0.10	mg/Kg wet							
n-Triacontane	ND	0.10	mg/Kg wet							
Naphthalene-aliphatic fraction	ND	0.10	mg/Kg wet							
2-Methylnaphthalene-aliphatic fraction	ND	0.10	mg/Kg wet							
Surrogate: Chlorooctadecane (COD)	3.76		mg/Kg wet	4.99		75.3	40-140			
Surrogate: o-Terphenyl (OTP)	4.53		mg/Kg wet	5.00		90.7	40-140			
Surrogate: 2-Bromonaphthalene	4.72		mg/Kg wet	5.00		94.4	40-140			
Surrogate: 2-Fluorobiphenyl	4.99		mg/Kg wet	5.00		99.9	40-140			

LCS (B089137-BS1)

Prepared & Analyzed: 01/22/14

Acenaphthene	4.76	0.10	mg/Kg wet	5.00		95.2	40-140			
Acenaphthylene	4.64	0.10	mg/Kg wet	5.00		92.8	40-140			
Anthracene	5.19	0.10	mg/Kg wet	5.00		104	40-140			
Benzo(a)anthracene	5.41	0.10	mg/Kg wet	5.00		108	40-140			
Benzo(a)pyrene	5.13	0.10	mg/Kg wet	5.00		103	40-140			
Benzo(b)fluoranthene	5.44	0.10	mg/Kg wet	5.00		109	40-140			
Benzo(g,h,i)perylene	5.65	0.10	mg/Kg wet	5.00		113	40-140			
Benzo(k)fluoranthene	5.35	0.10	mg/Kg wet	5.00		107	40-140			
Chrysene	5.04	0.10	mg/Kg wet	5.00		101	40-140			

QUALITY CONTROL
Petroleum Hydrocarbons Analyses - EPH - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch B089137 - SW-846 3546
LCS (B089137-BS1)

Prepared & Analyzed: 01/22/14

Dibenz(a,h)anthracene	5.63	0.10	mg/Kg wet	5.00		113	40-140			
Fluoranthene	5.23	0.10	mg/Kg wet	5.00		105	40-140			
Fluorene	4.99	0.10	mg/Kg wet	5.00		99.8	40-140			
Indeno(1,2,3-cd)pyrene	5.64	0.10	mg/Kg wet	5.00		113	40-140			
2-Methylnaphthalene	4.41	0.10	mg/Kg wet	5.00		88.2	40-140			
Naphthalene	3.98	0.10	mg/Kg wet	5.00		79.6	40-140			
Phenanthrene	5.14	0.10	mg/Kg wet	5.00		103	40-140			
Pyrene	5.12	0.10	mg/Kg wet	5.00		102	40-140			
n-Decane	2.85	0.10	mg/Kg wet	5.00		57.1	40-140			
n-Docosane	5.11	0.10	mg/Kg wet	5.00		102	40-140			
n-Dodecane	3.56	0.10	mg/Kg wet	5.00		71.2	40-140			
n-Eicosane	4.89	0.10	mg/Kg wet	5.00		97.8	40-140			
n-Hexacosane	5.22	0.10	mg/Kg wet	5.00		104	40-140			
n-Hexadecane	4.53	0.10	mg/Kg wet	5.00		90.7	40-140			
n-Hexatriacontane	5.18	0.10	mg/Kg wet	5.00		104	40-140			
n-Nonadecane	4.82	0.10	mg/Kg wet	5.00		96.3	40-140			
n-Nonane	1.92	0.10	mg/Kg wet	5.00		38.4	30-140			
n-Octacosane	5.11	0.10	mg/Kg wet	5.00		102	40-140			
n-Octadecane	4.76	0.10	mg/Kg wet	5.00		95.3	40-140			
n-Tetracosane	5.09	0.10	mg/Kg wet	5.00		102	40-140			
n-Tetradecane	4.07	0.10	mg/Kg wet	5.00		81.4	40-140			
n-Triacontane	5.24	0.10	mg/Kg wet	5.00		105	40-140			
Naphthalene-aliphatic fraction	ND	0.10	mg/Kg wet	5.00			0-5			
2-Methylnaphthalene-aliphatic fraction	ND	0.10	mg/Kg wet	5.00			0-5			
Surrogate: Chlorooctadecane (COD)	4.16		mg/Kg wet	4.99		83.3	40-140			
Surrogate: o-Terphenyl (OTP)	4.80		mg/Kg wet	5.00		96.0	40-140			
Surrogate: 2-Bromonaphthalene	4.64		mg/Kg wet	5.00		92.8	40-140			
Surrogate: 2-Fluorobiphenyl	4.88		mg/Kg wet	5.00		97.6	40-140			

LCS Dup (B089137-BSD1)

Prepared & Analyzed: 01/22/14

Acenaphthene	4.45	0.10	mg/Kg wet	5.00		89.1	40-140	6.65	25	
Acenaphthylene	4.35	0.10	mg/Kg wet	5.00		87.1	40-140	6.42	25	
Anthracene	4.79	0.10	mg/Kg wet	5.00		95.8	40-140	8.00	25	
Benzo(a)anthracene	4.89	0.10	mg/Kg wet	5.00		97.8	40-140	10.0	25	
Benzo(a)pyrene	4.64	0.10	mg/Kg wet	5.00		92.8	40-140	10.0	25	
Benzo(b)fluoranthene	4.92	0.10	mg/Kg wet	5.00		98.5	40-140	9.95	25	
Benzo(g,h,i)perylene	5.12	0.10	mg/Kg wet	5.00		102	40-140	9.96	25	
Benzo(k)fluoranthene	4.82	0.10	mg/Kg wet	5.00		96.5	40-140	10.4	25	
Chrysene	4.56	0.10	mg/Kg wet	5.00		91.3	40-140	10.0	25	
Dibenz(a,h)anthracene	5.09	0.10	mg/Kg wet	5.00		102	40-140	10.0	25	
Fluoranthene	4.77	0.10	mg/Kg wet	5.00		95.4	40-140	9.20	25	
Fluorene	4.66	0.10	mg/Kg wet	5.00		93.2	40-140	6.76	25	
Indeno(1,2,3-cd)pyrene	5.09	0.10	mg/Kg wet	5.00		102	40-140	10.2	25	
2-Methylnaphthalene	4.15	0.10	mg/Kg wet	5.00		82.9	40-140	6.20	25	
Naphthalene	3.79	0.10	mg/Kg wet	5.00		75.7	40-140	5.00	25	
Phenanthrene	4.75	0.10	mg/Kg wet	5.00		95.1	40-140	7.82	25	
Pyrene	4.66	0.10	mg/Kg wet	5.00		93.2	40-140	9.35	25	
n-Decane	2.78	0.10	mg/Kg wet	5.00		55.5	40-140	2.70	25	
n-Docosane	4.75	0.10	mg/Kg wet	5.00		95.0	40-140	7.22	25	
n-Dodecane	3.43	0.10	mg/Kg wet	5.00		68.5	40-140	3.75	25	
n-Eicosane	4.58	0.10	mg/Kg wet	5.00		91.6	40-140	6.62	25	
n-Hexacosane	4.86	0.10	mg/Kg wet	5.00		97.1	40-140	7.27	25	

QUALITY CONTROL
Petroleum Hydrocarbons Analyses - EPH - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B089137 - SW-846 3546										
LCS Dup (B089137-BSD1)					Prepared & Analyzed: 01/22/14					
n-Hexadecane	4.27	0.10	mg/Kg wet	5.00		85.4	40-140	5.95	25	
n-Hexatriacontane	4.77	0.10	mg/Kg wet	5.00		95.5	40-140	8.20	25	
n-Nonadecane	4.52	0.10	mg/Kg wet	5.00		90.3	40-140	6.45	25	
n-Nonane	1.89	0.10	mg/Kg wet	5.00		37.7	30-140	1.80	25	
n-Octacosane	4.72	0.10	mg/Kg wet	5.00		94.4	40-140	7.89	25	
n-Octadecane	4.48	0.10	mg/Kg wet	5.00		89.7	40-140	6.05	25	
n-Tetracosane	4.75	0.10	mg/Kg wet	5.00		94.9	40-140	7.03	25	
n-Tetradecane	3.85	0.10	mg/Kg wet	5.00		77.0	40-140	5.63	25	
n-Triacontane	4.82	0.10	mg/Kg wet	5.00		96.5	40-140	8.21	25	
Naphthalene-aliphatic fraction	ND	0.10	mg/Kg wet	5.00			0-5			
2-Methylnaphthalene-aliphatic fraction	ND	0.10	mg/Kg wet	5.00			0-5			
Surrogate: Chlorooctadecane (COD)	4.28		mg/Kg wet	4.99		85.9	40-140			
Surrogate: o-Terphenyl (OTP)	4.90		mg/Kg wet	5.00		98.0	40-140			
Surrogate: 2-Bromonaphthalene	4.35		mg/Kg wet	5.00		86.9	40-140			
Surrogate: 2-Fluorobiphenyl	4.60		mg/Kg wet	5.00		92.1	40-140			

QUALITY CONTROL
Metals Analyses (Total) - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B089077 - SW-846 7471										
Blank (B089077-BLK1)				Prepared: 01/21/14 Analyzed: 01/22/14						
Mercury	ND	0.025	mg/Kg wet							
LCS (B089077-BS1)				Prepared: 01/21/14 Analyzed: 01/22/14						
Mercury	4.24	0.33	mg/Kg wet	4.05		105	71.6-128.1			
LCS Dup (B089077-BSD1)				Prepared: 01/21/14 Analyzed: 01/22/14						
Mercury	3.96	0.34	mg/Kg wet	4.05		97.8	71.6-128.1	6.76	30	
Batch B089090 - SW-846 3050B										
Blank (B089090-BLK1)				Prepared: 01/21/14 Analyzed: 01/22/14						
Antimony	ND	2.5	mg/Kg wet							
Arsenic	ND	2.5	mg/Kg wet							
Barium	ND	2.5	mg/Kg wet							
Beryllium	ND	0.25	mg/Kg wet							
Cadmium	ND	0.25	mg/Kg wet							
Chromium	ND	0.50	mg/Kg wet							
Lead	ND	0.75	mg/Kg wet							
Nickel	ND	0.50	mg/Kg wet							
Selenium	ND	5.0	mg/Kg wet							
Silver	ND	0.50	mg/Kg wet							
Thallium	ND	2.5	mg/Kg wet							
Vanadium	ND	1.0	mg/Kg wet							
Zinc	ND	1.0	mg/Kg wet							
LCS (B089090-BS1)				Prepared: 01/21/14 Analyzed: 01/22/14						
Antimony	122	5.0	mg/Kg wet	88.2		138	8.2-218.9			
Arsenic	104	5.0	mg/Kg wet	99.6		104	83-117.6			
Barium	340	5.0	mg/Kg wet	310		110	83.2-117.5			
Beryllium	80.9	0.50	mg/Kg wet	72.3		112	83.9-116			
Cadmium	204	0.50	mg/Kg wet	182		112	83.1-116.9			
Chromium	151	0.99	mg/Kg wet	136		111	81.6-117.6			
Lead	113	1.5	mg/Kg wet	115		98.5	82.4-117.8			
Nickel	165	0.99	mg/Kg wet	153		108	84.4-115.6			
Selenium	156	9.9	mg/Kg wet	150		104	80-120			
Silver	41.4	0.99	mg/Kg wet	40.4		103	66.2-133.8			
Thallium	179	5.0	mg/Kg wet	174		103	81.2-118.8			
Vanadium	114	2.0	mg/Kg wet	97.6		117	75.5-124			
Zinc	165	2.0	mg/Kg wet	161		103	81.9-117.6			
LCS Dup (B089090-BSD1)				Prepared: 01/21/14 Analyzed: 01/22/14						
Antimony	120	5.0	mg/Kg wet	88.2		136	8.2-218.9	1.80	30	
Arsenic	102	5.0	mg/Kg wet	99.6		102	83-117.6	1.97	30	
Barium	321	5.0	mg/Kg wet	310		104	83.2-117.5	5.85	30	
Beryllium	77.0	0.50	mg/Kg wet	72.3		106	83.9-116	4.92	30	
Cadmium	189	0.50	mg/Kg wet	182		104	83.1-116.9	8.05	30	
Chromium	143	1.0	mg/Kg wet	136		105	81.6-117.6	5.64	30	
Lead	110	1.5	mg/Kg wet	115		95.9	82.4-117.8	2.67	30	
Nickel	153	1.0	mg/Kg wet	153		100	84.4-115.6	7.60	30	
Selenium	153	10	mg/Kg wet	150		102	80-120	2.50	30	
Silver	39.7	1.0	mg/Kg wet	40.4		98.3	66.2-133.8	4.24	30	
Thallium	171	5.0	mg/Kg wet	174		98.4	81.2-118.8	4.62	30	
Vanadium	111	2.0	mg/Kg wet	97.6		113	75.5-124	3.11	30	
Zinc	157	2.0	mg/Kg wet	161		97.5	81.9-117.6	5.10	30	

QUALITY CONTROL
Metals Analyses (Total) - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch B089090 - SW-846 3050B

Duplicate (B089090-DUP1)		Source: 14A0592-02		Prepared: 01/21/14 Analyzed: 01/22/14						
Antimony	ND	2.9	mg/Kg dry		ND			NC	35	
Arsenic	3.34	2.9	mg/Kg dry		ND			NC	35	
Barium	87.1	2.9	mg/Kg dry		73.5			16.9	35	
Beryllium	ND	0.29	mg/Kg dry		ND			NC	35	
Cadmium	0.908	0.29	mg/Kg dry		0.914			0.676	35	
Chromium	29.1	0.58	mg/Kg dry		26.7			8.55	35	
Lead	67.1	0.87	mg/Kg dry		86.8			25.5	35	
Nickel	21.7	0.58	mg/Kg dry		18.5			16.0	35	
Selenium	ND	5.8	mg/Kg dry		ND			NC	35	
Silver	ND	0.58	mg/Kg dry		ND			NC	35	
Thallium	ND	2.9	mg/Kg dry		ND			NC	35	
Vanadium	44.6	1.2	mg/Kg dry		41.7			6.58	35	
Zinc	230	1.2	mg/Kg dry		191			18.7	35	

MRL Check (B089090-MRL1)

Prepared: 01/21/14 Analyzed: 01/22/14

Lead	0.696	0.73	mg/Kg wet	0.730	95.3	80-120				
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Matrix Spike (B089090-MS1)
Source: 14A0592-02

Prepared: 01/21/14 Analyzed: 01/23/14

Antimony	18.0	2.9	mg/Kg dry	29.1	ND	61.7	*	75-125		MS-07
Arsenic	31.5	2.9	mg/Kg dry	29.1	2.77	98.7		75-125		
Barium	109	2.9	mg/Kg dry	29.1	73.5	121		75-125		
Beryllium	29.5	0.29	mg/Kg dry	29.1	0.122	101		75-125		
Cadmium	30.7	0.29	mg/Kg dry	29.1	0.914	102		75-125		
Chromium	51.0	0.58	mg/Kg dry	29.1	26.7	83.4		75-125		
Lead	126	0.87	mg/Kg dry	29.1	86.8	133	*	75-125		MS-11
Nickel	42.9	0.58	mg/Kg dry	29.1	18.5	83.9		75-125		
Selenium	31.0	5.8	mg/Kg dry	29.1	1.20	102		75-125		
Silver	27.5	0.58	mg/Kg dry	29.1	ND	94.3		75-125		
Thallium	29.0	2.9	mg/Kg dry	29.1	ND	99.6		75-125		
Vanadium	68.0	1.2	mg/Kg dry	29.1	41.7	90.1		75-125		
Zinc	205	1.2	mg/Kg dry	29.1	191	47.4	*	75-125		MS-19

Batch B089270 - SW-846 7471
Blank (B089270-BLK1)

Prepared: 01/23/14 Analyzed: 01/27/14

Mercury	ND	0.025	mg/Kg wet							
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LCS (B089270-BS1)

Prepared: 01/23/14 Analyzed: 01/27/14

Mercury	3.35	0.33	mg/Kg wet	4.05	82.7	71.6-128.1				
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LCS Dup (B089270-BSD1)

Prepared: 01/23/14 Analyzed: 01/27/14

Mercury	3.54	0.33	mg/Kg wet	4.05	87.5	71.6-128.1	5.62	30		
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QUALITY CONTROL
Metals Analyses (Total) - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch B089270 - SW-846 7471
Duplicate (B089270-DUP1)
Source: 14A0592-02RE1

Prepared: 01/23/14 Analyzed: 01/27/14

Mercury	0.168	0.029	mg/Kg dry		0.151			10.2	35	
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Matrix Spike (B089270-MS1)
Source: 14A0592-02RE1

Prepared: 01/23/14 Analyzed: 01/27/14

Mercury	0.342	0.029	mg/Kg dry	0.192	0.151	99.4	75-125			
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Batch S005341 - B089090
Serial Dilution (S005341-SRD1)
Source: 14A0592-02

Prepared: 01/21/14 Analyzed: 01/22/14

Chromium	29.2	2.7	mg/Kg dry		26.7			8.72	10	
Lead	96.3	4.1	mg/Kg dry		86.8			10.4	*	10 Z-01
Zinc	215	5.4	mg/Kg dry		191			11.9	*	10 Z-01

QUALITY CONTROL

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total) - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch B089368 - % Solids

Duplicate (B089368-DUP2)

Source: 14A0592-02

Prepared & Analyzed: 01/27/14

% Solids	82.8		% Wt		85.1			2.74	20	
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FLAG/QUALIFIER SUMMARY

*	QC result is outside of established limits.
†	Wide recovery limits established for difficult compound.
‡	Wide RPD limits established for difficult compound.
#	Data exceeded client recommended or regulatory level
	Percent recoveries and relative percent differences (RPDs) are determined by the software using values in the calculation which have not been rounded.
	No results have been blank subtracted unless specified in the case narrative section.
DL-04	Elevated reporting limit due to high concentration of an interfering analyte(s).
L-14	Compound classified by MA CAM as difficult with acceptable recoveries of 40-160%. Recovery does not meet 70-130% criteria but does meet difficult compound criteria.
MS-07	Matrix spike recovery is outside of control limits. Analysis is in control based on laboratory fortified blank recovery. Possibility of sample matrix effects that lead to low bias for reported result or non-homogeneous sample aliquot cannot be eliminated.
MS-11	Matrix spike recovery outside of control limits. Possibility of sample matrix effects that lead to a high bias for reported result or non-homogeneous sample aliquots cannot be eliminated.
MS-19	Sample to spike ratio is greater than or equal to 4:1. Spiked amount is not representative of the native amount in the sample. Appropriate or meaningful recoveries cannot be calculated.
R-05	Laboratory fortified blank duplicate RPD is outside of control limits. Reduced precision is anticipated for any reported value for this compound.
V-05	Continuing calibration did not meet method specifications and was biased on the low side for this compound.
V-16	Increased uncertainty is associated with the reported value which is likely to be biased on the low side.
	Response factor is less than method specified minimum acceptable value. Reduced precision and accuracy may be associated with reported result.
Z-01	Serial dilution is outside control limits.

CERTIFICATIONS

Certified Analyses included in this Report

Analyte	Certifications
MADEP-EPH-04-1.1 in Soil	
C9-C18 Aliphatics	CT,NC,WA,ME,NH-P
C19-C36 Aliphatics	CT,NC,WA,ME,NH-P
Unadjusted C11-C22 Aromatics	CT,NC,WA,ME,NH-P
C11-C22 Aromatics	CT,NC,WA,ME,NH-P
Acenaphthene	CT,NC,WA,ME,NH-P
Acenaphthylene	CT,NC,WA,ME,NH-P
Anthracene	CT,NC,WA,ME,NH-P
Benzo(a)anthracene	CT,NC,WA,ME,NH-P
Benzo(a)pyrene	CT,NC,WA,ME,NH-P
Benzo(b)fluoranthene	CT,NC,WA,ME,NH-P
Benzo(g,h,i)perylene	CT,NC,WA,ME,NH-P
Benzo(k)fluoranthene	CT,NC,WA,ME,NH-P
Chrysene	CT,NC,WA,ME,NH-P
Dibenz(a,h)anthracene	CT,NC,WA,ME,NH-P
Fluoranthene	CT,NC,WA,ME,NH-P
Fluorene	CT,NC,WA,ME
Indeno(1,2,3-cd)pyrene	CT,NC,WA,ME,NH-P
2-Methylnaphthalene	CT,NC,WA,ME
Naphthalene	CT,NC,WA,ME,NH-P
Phenanthrene	CT,NC,WA,ME,NH-P
Pyrene	CT,NC,WA,ME,NH-P
SW-846 6010C in Soil	
Antimony	CT,NH,NY,NC,ME,VA,NJ
Arsenic	CT,NH,NY,ME,NC,VA,NJ
Barium	CT,NH,NY,ME,NC,VA,NJ
Beryllium	CT,NH,NY,ME,NC,VA,NJ
Cadmium	CT,NH,NY,ME,NC,VA,NJ
Chromium	CT,NH,NY,ME,NC,VA,NJ
Lead	CT,NH,NY,AIHA,ME,NC,VA,NJ
Nickel	CT,NH,NY,ME,NC,VA,NJ
Selenium	CT,NH,NY,ME,NC,VA,NJ
Silver	CT,NH,NY,ME,NC,VA,NJ
Thallium	CT,NH,NY,ME,NC,VA,NJ
Vanadium	CT,NH,NY,ME,NC,VA,NJ
Zinc	CT,NH,NY,ME,NC,VA,NJ
SW-846 7471B in Soil	
Mercury	CT,NH,NY,NC,ME,VA,NJ
SW-846 8260C in Soil	
Acetone	CT,NH,NY,ME
Benzene	CT,NH,NY,ME
Bromobenzene	NH,NY,ME
Bromochloromethane	NH,NY,ME
Bromodichloromethane	CT,NH,NY,ME
Bromoform	CT,NH,NY,ME
Bromomethane	CT,NH,NY,ME
2-Butanone (MEK)	CT,NH,NY,ME

CERTIFICATIONS

Certified Analyses included in this Report

Analyte	Certifications
<i>SW-846 8260C in Soil</i>	
n-Butylbenzene	CT,NH,NY,ME
sec-Butylbenzene	CT,NH,NY,ME
tert-Butylbenzene	CT,NH,NY,ME
Carbon Disulfide	CT,NH,NY,ME
Carbon Tetrachloride	CT,NH,NY,ME
Chlorobenzene	CT,NH,NY,ME
Chlorodibromomethane	CT,NH,NY,ME
Chloroethane	CT,NH,NY,ME
Chloroform	CT,NH,NY,ME
Chloromethane	CT,NH,NY,ME
2-Chlorotoluene	CT,NH,NY,ME
4-Chlorotoluene	CT,NH,NY,ME
Dibromomethane	NH,NY,ME
1,2-Dichlorobenzene	CT,NH,NY,ME
1,3-Dichlorobenzene	CT,NH,NY,ME
1,4-Dichlorobenzene	CT,NH,NY,ME
Dichlorodifluoromethane (Freon 12)	NY,ME
1,1-Dichloroethane	CT,NH,NY,ME
1,2-Dichloroethane	CT,NH,NY,ME
1,1-Dichloroethylene	CT,NH,NY,ME
cis-1,2-Dichloroethylene	CT,NH,NY,ME
trans-1,2-Dichloroethylene	CT,NH,NY,ME
1,2-Dichloropropane	CT,NH,NY,ME
1,3-Dichloropropane	NH,NY,ME
2,2-Dichloropropane	NH,NY,ME
1,1-Dichloropropene	NH,NY,ME
cis-1,3-Dichloropropene	CT,NH,NY,ME
trans-1,3-Dichloropropene	CT,NH,NY,ME
Ethylbenzene	CT,NH,NY,ME
Hexachlorobutadiene	NH,NY,ME
2-Hexanone (MBK)	CT,NH,NY,ME
Isopropylbenzene (Cumene)	CT,NH,NY,ME
p-Isopropyltoluene (p-Cymene)	NH,NY
Methyl tert-Butyl Ether (MTBE)	NY
Methylene Chloride	CT,NH,NY,ME
4-Methyl-2-pentanone (MIBK)	CT,NH,NY
Naphthalene	NH,NY,ME
n-Propylbenzene	NH,NY
Styrene	CT,NH,NY,ME
1,1,1,2-Tetrachloroethane	CT,NH,NY,ME
1,1,2,2-Tetrachloroethane	CT,NH,NY,ME
Tetrachloroethylene	CT,NH,NY,ME
Toluene	CT,NH,NY,ME
1,2,4-Trichlorobenzene	NH,NY,ME
1,1,1-Trichloroethane	CT,NH,NY,ME
1,1,2-Trichloroethane	CT,NH,NY,ME
Trichloroethylene	CT,NH,NY,ME

CERTIFICATIONS

Certified Analyses included in this Report

Analyte	Certifications
SW-846 8260C in Soil	
Trichlorofluoromethane (Freon 11)	CT,NH,NY,ME
1,2,3-Trichloropropane	NH,NY,ME
1,2,4-Trimethylbenzene	CT,NH,NY,ME
1,3,5-Trimethylbenzene	CT,NH,NY,ME
Vinyl Chloride	CT,NH,NY,ME
m+p Xylene	CT,NH,NY,ME
o-Xylene	CT,NH,NY,ME

SW-846 8270D in Soil

Acenaphthene	CT,NY,NH,ME,NC,VA,NJ
Acenaphthylene	CT,NY,NH,ME,NC,VA,NJ
Anthracene	CT,NY,NH,ME,NC,VA,NJ
Benzo(a)anthracene	CT,NY,NH,ME,NC,VA,NJ
Benzo(a)pyrene	CT,NY,NH,ME,NC,VA,NJ
Benzo(b)fluoranthene	CT,NY,NH,ME,NC,VA,NJ
Benzo(g,h,i)perylene	CT,NY,NH,ME,NC,VA,NJ
Benzo(k)fluoranthene	CT,NY,NH,ME,NC,VA,NJ
Chrysene	CT,NY,NH,ME,NC,VA,NJ
Dibenz(a,h)anthracene	CT,NY,NH,ME,NC,VA,NJ
Fluoranthene	CT,NY,NH,ME,NC,VA,NJ
Fluorene	CT,NY,NH,ME,NC,VA,NJ
Indeno(1,2,3-cd)pyrene	CT,NY,NH,ME,NC,VA,NJ
2-Methylnaphthalene	CT,NY,NH,ME,NC,VA,NJ
Naphthalene	CT,NY,NH,ME,NC,VA,NJ
Phenanthrene	CT,NY,NH,ME,NC,VA,NJ
Pyrene	CT,NY,NH,ME,NC,VA,NJ

The CON-TEST Environmental Laboratory operates under the following certifications and accreditations:

Code	Description	Number	Expires
AIHA	AIHA-LAP, LLC	100033	02/1/2016
MA	Massachusetts DEP	M-MA100	06/30/2014
CT	Connecticut Department of Public Health	PH-0567	09/30/2015
NY	New York State Department of Health	10899 NELAP	04/1/2014
NH-S	New Hampshire Environmental Lab	2516 NELAP	02/5/2014
RI	Rhode Island Department of Health	LAO00112	12/30/2014
NC	North Carolina Div. of Water Quality	652	12/31/2014
NJ	New Jersey DEP	MA007 NELAP	06/30/2014
FL	Florida Department of Health	E871027 NELAP	06/30/2014
VT	Vermont Department of Health Lead Laboratory	LL015036	07/30/2014
WA	State of Washington Department of Ecology	C2065	02/23/2014
ME	State of Maine	2011028	06/9/2015
VA	Commonwealth of Virginia	460217	12/14/2014
NH-P	New Hampshire Environmental Lab	2557 NELAP	09/6/2014



con-test
ANALYTICAL LABORATORY

Phone: 413-525-2332
Fax: 413-525-6405
Email: info@contestlabs.com
www.contestlabs.com

CHAIN OF CUSTODY RECORD

39 Spruce Street
East Longmeadow, MA 01028

Rev 04.05.12

Company Name: TRC Environmental

Telephone: 978-970-5600

Address: 600 Suffolk Street

Project # P 212867

Attention: David Gill

Client PO# price agreed

Project Location: 163 Glen St, Somerville

DATA DELIVERY (check all that apply)
☐ FAX ☐ EMAIL ☐ WEBSITE

Sampled By: E. Wadwell + K. Jordan

Fax # 978-453-1995

Project Proposal Provided? (for billing purposes)
☐ yes ☐ no

Email: dgill@trcsolutions.com

Project Proposal Provided? (for billing purposes)
☐ yes ☐ no

Format: ☐ PDF ☒ EXCEL ☐ GIS

Con-Test Lab ID (laboratory use only)

Client Sample ID / Description

Beginning Date/Time

Ending Date/Time

Composite

Grab

*Matrix (same as sample)

Enhanced Data Package

Matrix

Conc

Code

Box

Matrix

Conc

Code

Box

Matrix

Conc

TRC-1 (0-8/11)

1/26/14

0915

X

X

X

X

X

X

X

X

X

X

X

X

TRC-2 (0-8/11)

1/26/14

1040

X

X

X

X

X

X

X

X

X

X

X

X

TRC-3 (0-8/10)

1/26/14

1200

X

X

X

X

X

X

X

X

X

X

X

X

TRC-4 (0-8/81)

1/26/14

1400

X

X

X

X

X

X

X

X

X

X

X

X

DVO-1

1/26/14

X

X

X

X

X

X

X

X

X

X

X

X

Trip Blank

X

X

X

X

X

X

X

X

X

X

X

X

Comments:

Relinquished by (signature)

Date/Time:

Turnaround

Detection Limit Requirements

Massachusetts:

Connecticut:

Other:

MA State DW Form Required

MA State DW Form Required

MA State DW Form Required

MA State DW Form Required

MA State DW Form Required

MA State DW Form Required

MA State DW Form Required

MA State DW Form Required

MA State DW Form Required

MA State DW Form Required

MA State DW Form Required

Received by (signature)

Date/Time:

Turnaround

Detection Limit Requirements

Massachusetts:

Connecticut:

Other:

MA State DW Form Required

MA State DW Form Required

MA State DW Form Required

MA State DW Form Required

MA State DW Form Required

MA State DW Form Required

MA State DW Form Required

MA State DW Form Required

MA State DW Form Required

MA State DW Form Required

MA State DW Form Required

Received by (signature)

Date/Time:

Turnaround

Detection Limit Requirements

Massachusetts:

Connecticut:

Other:

MA State DW Form Required

MA State DW Form Required

MA State DW Form Required

MA State DW Form Required

MA State DW Form Required

MA State DW Form Required

MA State DW Form Required

MA State DW Form Required

MA State DW Form Required

MA State DW Form Required

MA State DW Form Required

Received by (signature)

Date/Time:

Turnaround

Detection Limit Requirements

Massachusetts:

Connecticut:

Other:

MA State DW Form Required

MA State DW Form Required

MA State DW Form Required

MA State DW Form Required

MA State DW Form Required

MA State DW Form Required

MA State DW Form Required

MA State DW Form Required

MA State DW Form Required

MA State DW Form Required

MA State DW Form Required

Received by (signature)

Date/Time:

Turnaround

Detection Limit Requirements

Massachusetts:

Connecticut:

Other:

MA State DW Form Required

MA State DW Form Required

MA State DW Form Required

MA State DW Form Required

MA State DW Form Required

MA State DW Form Required

MA State DW Form Required

MA State DW Form Required

MA State DW Form Required

MA State DW Form Required

MA State DW Form Required

Received by (signature)

Date/Time:

Turnaround

Detection Limit Requirements

Massachusetts:

Connecticut:

39 Spruce St.
East Longmeadow, MA. 01028
P: 413-525-2332
F: 413-525-6405
www.contestlabs.com



Page 1 of 2



Sample Receipt Checklist

CLIENT NAME: TRC Environmental RECEIVED BY: +KOB DATE: 1-20-14

1) Was the chain(s) of custody relinquished and signed?

Yes

No

No CoC Included

2) Does the chain agree with the samples?

Yes

No

If not, explain:

3) Are all the samples in good condition?

Yes

No

If not, explain:

4) How were the samples received:

On Ice ☒

Direct from Sampling ☐

Ambient ☐

In Cooler(s) ☒

Were the samples received in Temperature Compliance of (2-6°C)?

Yes

No

N/A

Temperature °C by Temp blank _____ Temperature °C by Temp gun 4.5°C

5) Are there Dissolved samples for the lab to filter?

Yes

No

Who was notified _____ Date _____ Time _____

6) Are there any RUSH or SHORT HOLDING TIME samples?

Yes

No

Who was notified _____ Date _____ Time _____

7) Location where samples are stored:

19

Permission to subcontract samples? Yes No

(Walk-in clients only) if not already approved

Client Signature: _____

8) Do all samples have the proper Acid pH: Yes No N/A

9) Do all samples have the proper Base pH: Yes No N/A

10) Was the PC notified of any discrepancies with the CoC vs the samples: Yes No N/A

Containers received at Con-Test

	# of containers		# of containers
1 Liter Amber		8 oz amber/clear jar	<u>6</u>
500 mL Amber		4 oz amber/clear jar	
250 mL Amber (8oz amber)		2 oz amber/clear jar	<u>4</u>
1 Liter Plastic		Plastic Bag / Ziploc	
500 mL Plastic		SOC Kit	
250 mL plastic		Non-ConTest Container	
40 mL Vial - type listed below		Perchlorate Kit	
Colisure / bacteria bottle		Flashpoint bottle	
Dissolved Oxygen bottle		Other glass jar	
Encore		Other	

Laboratory Comments:

40 mL vials: # HCl _____ # Methanol 6

Doc# 277 # Bisulfate _____ # DI Water 12

Rev. 4/A /gust 2013 # Thiosulfate _____ Unpreserved

Time and Date Frozen:

1-20-14 1735

Login Sample Receipt Checklist**(Rejection Criteria Listing - Using Sample Acceptance Policy)****Any False statement will be brought to the attention of Client**

<u>Question</u>	<u>Answer (True/False)</u>		<u>Comment</u>
	T/F/NA		
1) The cooler's custody seal, if present, is intact.	NA		
2) The cooler or samples do not appear to have been compromised or tampered with.	T		
3) Samples were received on ice.	T		
4) Cooler Temperature is acceptable.	T		
5) Cooler Temperature is recorded.	T		
6) COC is filled out in ink and legible.	T		
7) COC is filled out with all pertinent information.	T		
8) Field Sampler's name present on COC.	T		
9) There are no discrepancies between the sample IDs on the container and the COC.	T		
10) Samples are received within Holding Time.	T		
11) Sample containers have legible labels.	T		
12) Containers are not broken or leaking.	T		
13) Air Cassettes are not broken/open.	NA		
14) Sample collection date/times are provided.	T		
15) Appropriate sample containers are used.	T		
16) Proper collection media used.	T		
17) No headspace sample bottles are completely filled.	T		
18) There is sufficient volume for all requested analyses, including any requested MS/MSDs.	T		
19) Trip blanks provided if applicable.	T NA KOB		
20) VOA sample vials do not have head space or bubble is <6mm (1/4") in diameter.	NA		
21) Samples do not require splitting or compositing.	T		

Doc #277 Rev. 4 August 2013

Who notified of False statements?**Log-In Technician Initials:** KOB**Date/Time:****Date/Time:** 1-20-14

1735

MADEP MCP Analytical Method Report Certification Form

Laboratory Name: Con-Test Analytical Laboratory

Project #: 14A0592

Project Location: 163 Glen St., Somerville, MA

RTN:

This Form provides certifications for the following data set: [list Laboratory Sample ID Number(s)]

14A0592-01 thru 14A0592-06

Matrices: Soil

CAM Protocol (check all that below)

8260 VOC CAM II A (X)	7470/7471 Hg CAM IIIB (X)	MassDEP VPH CAM IV A ()	8081 Pesticides CAM V B ()	7196 Hex Cr CAM VI B ()	MassDEP APH CAM IX A ()
8270 SVOC CAM II B (X)	7010 Metals CAM III C ()	MassDEP EPH CAM IV A (X)	8151 Herbicides CAM V C ()	8330 Explosives CAM VIII A ()	TO-15 VOC CAM IX B ()
6010 Metals CAM III A (X)	6020 Metals CAM III D ()	8082 PCB CAM V A ()	9014 Total Cyanide/PAC CAM VI A ()	6860 Perchlorate CAM VIII B ()	

Affirmative response to Questions A through F is required for "Presumptive Certainty" status

A	Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times?	☒ Yes ☐ No ¹
B	Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed?	☒ Yes ☐ No ¹
C	Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances?	☒ Yes ☐ No ¹
D	Does the laboratory report comply with all the reporting requirements specified in CAM VII A, Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data?	☒ Yes ☐ No ¹
E a	VPH, EPH, and APH Methods only: Was each method conducted without significant modification(s)? (Refer to the individual method(s) for a list of significant modifications).	☒ Yes ☐ No ¹
E b	APH and TO-15 Methods only: Was the complete analyte list reported for each method?	☐ Yes ☐ No ¹
F	Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all No responses to Questions A through E)?	☒ Yes ☐ No ¹

A response to questions G, H and I below is required for "Presumptive Certainty" status

G	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)?	☒ Yes ☐ No ¹
----------	---	--

Data User Note: Data that achieve "Presumptive Certainty" status may not necessarily meet the data usability and representativeness requirements described in 310 CMR 40. 1056 (2)(k) and WSC-07-350.

H	Were all QC performance standards specified in the CAM protocol(s) achieved?	☐ Yes ☒ No ¹
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?	☐ Yes ☒ No ¹

¹ All Negative responses must be addressed in an attached Environmental Laboratory case narrative.

I, the undersigned, attest under the pains and penalties of perjury that, based upon my personal inquiry of those responsible for obtaining the information, the material contained in this analytical report is, to the best of my knowledge and belief, accurate and complete.

Signature: 

Position: Laboratory Director

Printed Name: Michael A. Erickson

Date: 01/27/14

January 28, 2014

Dave Gill
TRC Solutions - Lowell
650 Suffolk Street
Lowell, MA 01852

Project Location: 163 Glen St., Somerville, MA
Client Job Number:
Project Number: 212867 Phase000002
Laboratory Work Order Number: 14A0607

Enclosed are results of analyses for samples received by the laboratory on January 21, 2014. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink, reading "Meghan E. Kelley". The signature is written in a cursive, flowing style.

Meghan E. Kelley
Project Manager



39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

TRC Solutions - Lowell
650 Suffolk Street
Lowell, MA 01852
ATTN: Dave Gill

REPORT DATE: 1/28/2014

PURCHASE ORDER NUMBER:

PROJECT NUMBER: 212867 Phase000002

ANALYTICAL SUMMARY

WORK ORDER NUMBER: 14A0607

The results of analyses performed on the following samples submitted to the CON-TEST Analytical Laboratory are found in this report.

PROJECT LOCATION: 163 Glen St., Somerville, MA

FIELD SAMPLE #	LAB ID:	MATRIX	SAMPLE DESCRIPTION	TEST	SUB LAB
TRC-1	14A0607-01	Ground Water		MADEP-EPH-04-1.1 SW-846 6020A SW-846 7470A SW-846 8260C SW-846 8270D	
TRC-2	14A0607-02	Ground Water		MADEP-EPH-04-1.1 SW-846 6020A SW-846 7470A SW-846 8260C SW-846 8270D	
TRC-3	14A0607-03	Ground Water		MADEP-EPH-04-1.1 SW-846 6020A SW-846 7470A SW-846 8260C SW-846 8270D	
TRC-4	14A0607-04	Ground Water		MADEP-EPH-04-1.1 SW-846 6020A SW-846 7470A SW-846 8260C SW-846 8270D	
Dup-1	14A0607-05	Ground Water		MADEP-EPH-04-1.1 SW-846 6020A SW-846 7470A SW-846 8260C SW-846 8270D	
Trip Blank	14A0607-06	Trip Blank Water		SW-846 8260C	

CASE NARRATIVE SUMMARY

All reported results are within defined laboratory quality control objectives unless listed below or otherwise qualified in this report.

For method 8270, only PAH compounds were requested and reported.

For MA EPH, only carbon fractions were requested and reported.

SW-846 8260C**Qualifications:**

Laboratory fortified blank/laboratory control sample recovery and duplicate recoveries outside of control limits. Data validation is not affected since all results are "not detected" for associated samples in this batch and bias is on the high side.

Analyte & Samples(s) Qualified:**Methylene Chloride**

B089231-BS1, B089231-BSD1

Laboratory fortified blank/laboratory control sample recovery and duplicate recovery are outside of control limits. Reported value for this compound is likely to be biased on the low side.

Analyte & Samples(s) Qualified:**Naphthalene, Vinyl Chloride**14A0607-01[TRC-1], 14A0607-02[TRC-2], 14A0607-03[TRC-3], 14A0607-04[TRC-4], 14A0607-05[*Dup*-1], 14A0607-06[Trip Blank], B089231-BLK1, B089231-BS1, B089231-BSD1

Either laboratory fortified blank/laboratory control sample or duplicate recovery is outside of control limits, but the other is within limits. RPD between the two LFB/LCS results is within method specified criteria.

Analyte & Samples(s) Qualified:**1,2,3-Trichlorobenzene**

B089231-BS1

Compound classified by MA CAM as difficult with acceptable recoveries of 40-160%. Recovery does not meet 70-130% criteria but does meet difficult compound criteria.

Analyte & Samples(s) Qualified:**Dichlorodifluoromethane (Freon 12)**

B089231-BS1, B089231-BSD1

Elevated reporting limit based on lowest point in calibration.
MA CAM reporting limit not met.

Analyte & Samples(s) Qualified:**1,2-Dichloroethane, Carbon Disulfide, Chloroform, Methylene Chloride**14A0607-01[TRC-1], 14A0607-02[TRC-2], 14A0607-03[TRC-3], 14A0607-04[TRC-4], 14A0607-05[*Dup*-1], 14A0607-06[Trip Blank]

Response factor is less than method specified minimum acceptable value. Reduced precision and accuracy may be associated with reported result.

Analyte & Samples(s) Qualified:**1,4-Dioxane**14A0607-01[TRC-1], 14A0607-02[TRC-2], 14A0607-03[TRC-3], 14A0607-04[TRC-4], 14A0607-05[*Dup*-1], 14A0607-06[Trip Blank], B089231-BLK1, B089231-BS1, B089231-BSD1

Continuing calibration did not meet method specifications and was biased on the high side. Data validation is not affected since sample result was "not detected" for this compound.

Analyte & Samples(s) Qualified:**2-Butanone (MEK), Bromomethane, Chloromethane, Methylene Chloride**

B089231-BS1, B089231-BSD1

SW-846 8270D**Qualifications:**

Continuing calibration did not meet method specifications and was biased on the high side. Data validation is not affected since sample result was "not detected" for this compound.

Analyte & Samples(s) Qualified:**Fluorene**14A0607-01[TRC-1], 14A0607-02[TRC-2], 14A0607-03[TRC-3], 14A0607-04[TRC-4], 14A0607-05[*Dup*-1]

MADEP-EPH-04-1.1

SPE cartridge contamination with non-petroleum compounds, if present, is verified by GC/MS in each method blank per extraction batch and excluded from C11-C22 aromatic range fraction in all samples in the batch. No significant modifications were made to the method.

SW-846 8260C

Laboratory control sample recoveries for required MCP Data Enhancement 8260 compounds were all within limits specified by the method except for "difficult analytes" where recovery control limits of 40-160% are used and/or unless otherwise listed in this narrative. Difficult analytes: MIBK, MEK, acetone, 1,4-dioxane, chloromethane, dichlorodifluoromethane, 2-hexanone, and bromomethane.

The results of analyses reported only relate to samples submitted to the Con-Test Analytical Laboratory for testing.

I certify that the analyses listed above, unless specifically listed as subcontracted, if any, were performed under my direction according to the approved methodologies listed in this document, and that based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.

A handwritten signature in black ink, appearing to read "Daren J. Damboragian", is written over a light gray rectangular background.

Daren J. Damboragian
Laboratory Manager

Project Location: 163 Glen St., Somerville, MA

Sample Description:

Work Order: 14A0607

Date Received: 1/21/2014

Field Sample #: TRC-1

Sampled: 1/21/2014 00:00

Sample ID: 14A0607-01

Sample Matrix: Ground Water

Volatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Acetone	ND	10	µg/L	1		SW-846 8260C	1/23/14	1/23/14 14:45	EEH
tert-Amyl Methyl Ether (TAME)	ND	0.50	µg/L	1		SW-846 8260C	1/23/14	1/23/14 14:45	EEH
Benzene	ND	1.0	µg/L	1		SW-846 8260C	1/23/14	1/23/14 14:45	EEH
Bromobenzene	ND	1.0	µg/L	1		SW-846 8260C	1/23/14	1/23/14 14:45	EEH
Bromochloromethane	ND	1.0	µg/L	1		SW-846 8260C	1/23/14	1/23/14 14:45	EEH
Bromodichloromethane	ND	1.0	µg/L	1		SW-846 8260C	1/23/14	1/23/14 14:45	EEH
Bromoform	ND	1.0	µg/L	1		SW-846 8260C	1/23/14	1/23/14 14:45	EEH
Bromomethane	ND	2.0	µg/L	1		SW-846 8260C	1/23/14	1/23/14 14:45	EEH
2-Butanone (MEK)	ND	10	µg/L	1		SW-846 8260C	1/23/14	1/23/14 14:45	EEH
n-Butylbenzene	ND	1.0	µg/L	1		SW-846 8260C	1/23/14	1/23/14 14:45	EEH
sec-Butylbenzene	ND	1.0	µg/L	1		SW-846 8260C	1/23/14	1/23/14 14:45	EEH
tert-Butylbenzene	ND	1.0	µg/L	1		SW-846 8260C	1/23/14	1/23/14 14:45	EEH
tert-Butyl Ethyl Ether (TBEE)	ND	0.50	µg/L	1		SW-846 8260C	1/23/14	1/23/14 14:45	EEH
Carbon Disulfide	ND	5.0	µg/L	1	RL-07	SW-846 8260C	1/23/14	1/23/14 14:45	EEH
Carbon Tetrachloride	ND	1.0	µg/L	1		SW-846 8260C	1/23/14	1/23/14 14:45	EEH
Chlorobenzene	ND	1.0	µg/L	1		SW-846 8260C	1/23/14	1/23/14 14:45	EEH
Chlorodibromomethane	ND	0.50	µg/L	1		SW-846 8260C	1/23/14	1/23/14 14:45	EEH
Chloroethane	ND	2.0	µg/L	1		SW-846 8260C	1/23/14	1/23/14 14:45	EEH
Chloroform	ND	5.0	µg/L	1	RL-07	SW-846 8260C	1/23/14	1/23/14 14:45	EEH
Chloromethane	ND	2.0	µg/L	1		SW-846 8260C	1/23/14	1/23/14 14:45	EEH
2-Chlorotoluene	ND	1.0	µg/L	1		SW-846 8260C	1/23/14	1/23/14 14:45	EEH
4-Chlorotoluene	ND	1.0	µg/L	1		SW-846 8260C	1/23/14	1/23/14 14:45	EEH
1,2-Dibromo-3-chloropropane (DBCP)	ND	2.0	µg/L	1		SW-846 8260C	1/23/14	1/23/14 14:45	EEH
1,2-Dibromoethane (EDB)	ND	0.50	µg/L	1		SW-846 8260C	1/23/14	1/23/14 14:45	EEH
Dibromomethane	ND	1.0	µg/L	1		SW-846 8260C	1/23/14	1/23/14 14:45	EEH
1,2-Dichlorobenzene	ND	1.0	µg/L	1		SW-846 8260C	1/23/14	1/23/14 14:45	EEH
1,3-Dichlorobenzene	ND	1.0	µg/L	1		SW-846 8260C	1/23/14	1/23/14 14:45	EEH
1,4-Dichlorobenzene	ND	1.0	µg/L	1		SW-846 8260C	1/23/14	1/23/14 14:45	EEH
Dichlorodifluoromethane (Freon 12)	ND	2.0	µg/L	1		SW-846 8260C	1/23/14	1/23/14 14:45	EEH
1,1-Dichloroethane	ND	1.0	µg/L	1		SW-846 8260C	1/23/14	1/23/14 14:45	EEH
1,2-Dichloroethane	ND	5.0	µg/L	1	RL-07	SW-846 8260C	1/23/14	1/23/14 14:45	EEH
1,1-Dichloroethylene	3.7	1.0	µg/L	1		SW-846 8260C	1/23/14	1/23/14 14:45	EEH
cis-1,2-Dichloroethylene	ND	1.0	µg/L	1		SW-846 8260C	1/23/14	1/23/14 14:45	EEH
trans-1,2-Dichloroethylene	ND	1.0	µg/L	1		SW-846 8260C	1/23/14	1/23/14 14:45	EEH
1,2-Dichloropropane	ND	1.0	µg/L	1		SW-846 8260C	1/23/14	1/23/14 14:45	EEH
1,3-Dichloropropane	ND	0.50	µg/L	1		SW-846 8260C	1/23/14	1/23/14 14:45	EEH
2,2-Dichloropropane	ND	1.0	µg/L	1		SW-846 8260C	1/23/14	1/23/14 14:45	EEH
1,1-Dichloropropene	ND	0.50	µg/L	1		SW-846 8260C	1/23/14	1/23/14 14:45	EEH
cis-1,3-Dichloropropene	ND	0.40	µg/L	1		SW-846 8260C	1/23/14	1/23/14 14:45	EEH
trans-1,3-Dichloropropene	ND	0.40	µg/L	1		SW-846 8260C	1/23/14	1/23/14 14:45	EEH
Diethyl Ether	ND	2.0	µg/L	1		SW-846 8260C	1/23/14	1/23/14 14:45	EEH
Diisopropyl Ether (DIPE)	ND	0.50	µg/L	1		SW-846 8260C	1/23/14	1/23/14 14:45	EEH
1,4-Dioxane	ND	50	µg/L	1	V-16	SW-846 8260C	1/23/14	1/23/14 14:45	EEH
Ethylbenzene	ND	1.0	µg/L	1		SW-846 8260C	1/23/14	1/23/14 14:45	EEH

Project Location: 163 Glen St., Somerville, MA

Sample Description:

Work Order: 14A0607

Date Received: 1/21/2014

Field Sample #: TRC-1

Sampled: 1/21/2014 00:00

Sample ID: 14A0607-01

Sample Matrix: Ground Water

Volatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Hexachlorobutadiene	ND	0.50	µg/L	1		SW-846 8260C	1/23/14	1/23/14 14:45	EEH
2-Hexanone (MBK)	ND	10	µg/L	1		SW-846 8260C	1/23/14	1/23/14 14:45	EEH
Isopropylbenzene (Cumene)	ND	1.0	µg/L	1		SW-846 8260C	1/23/14	1/23/14 14:45	EEH
p-Isopropyltoluene (p-Cymene)	ND	1.0	µg/L	1		SW-846 8260C	1/23/14	1/23/14 14:45	EEH
Methyl tert-Butyl Ether (MTBE)	ND	1.0	µg/L	1		SW-846 8260C	1/23/14	1/23/14 14:45	EEH
Methylene Chloride	ND	5.0	µg/L	1	RL-07	SW-846 8260C	1/23/14	1/23/14 14:45	EEH
4-Methyl-2-pentanone (MIBK)	ND	10	µg/L	1		SW-846 8260C	1/23/14	1/23/14 14:45	EEH
Naphthalene	ND	2.0	µg/L	1	L-04	SW-846 8260C	1/23/14	1/23/14 14:45	EEH
n-Propylbenzene	ND	1.0	µg/L	1		SW-846 8260C	1/23/14	1/23/14 14:45	EEH
Styrene	ND	1.0	µg/L	1		SW-846 8260C	1/23/14	1/23/14 14:45	EEH
1,1,1,2-Tetrachloroethane	ND	1.0	µg/L	1		SW-846 8260C	1/23/14	1/23/14 14:45	EEH
1,1,2,2-Tetrachloroethane	ND	0.50	µg/L	1		SW-846 8260C	1/23/14	1/23/14 14:45	EEH
Tetrachloroethylene	130	1.0	µg/L	1		SW-846 8260C	1/23/14	1/23/14 14:45	EEH
Tetrahydrofuran	ND	2.0	µg/L	1		SW-846 8260C	1/23/14	1/23/14 14:45	EEH
Toluene	ND	1.0	µg/L	1		SW-846 8260C	1/23/14	1/23/14 14:45	EEH
1,2,3-Trichlorobenzene	ND	2.0	µg/L	1		SW-846 8260C	1/23/14	1/23/14 14:45	EEH
1,2,4-Trichlorobenzene	ND	1.0	µg/L	1		SW-846 8260C	1/23/14	1/23/14 14:45	EEH
1,1,1-Trichloroethane	5.2	1.0	µg/L	1		SW-846 8260C	1/23/14	1/23/14 14:45	EEH
1,1,2-Trichloroethane	ND	1.0	µg/L	1		SW-846 8260C	1/23/14	1/23/14 14:45	EEH
Trichloroethylene	12	1.0	µg/L	1		SW-846 8260C	1/23/14	1/23/14 14:45	EEH
Trichlorofluoromethane (Freon 11)	ND	2.0	µg/L	1		SW-846 8260C	1/23/14	1/23/14 14:45	EEH
1,2,3-Trichloropropane	ND	2.0	µg/L	1		SW-846 8260C	1/23/14	1/23/14 14:45	EEH
1,2,4-Trimethylbenzene	ND	1.0	µg/L	1		SW-846 8260C	1/23/14	1/23/14 14:45	EEH
1,3,5-Trimethylbenzene	ND	1.0	µg/L	1		SW-846 8260C	1/23/14	1/23/14 14:45	EEH
Vinyl Chloride	ND	2.0	µg/L	1	L-04	SW-846 8260C	1/23/14	1/23/14 14:45	EEH
m+p Xylene	ND	2.0	µg/L	1		SW-846 8260C	1/23/14	1/23/14 14:45	EEH
o-Xylene	ND	1.0	µg/L	1		SW-846 8260C	1/23/14	1/23/14 14:45	EEH

Surrogates	% Recovery	Recovery Limits	Flag/Qual
1,2-Dichloroethane-d4	86.2	70-130	
Toluene-d8	104	70-130	
4-Bromofluorobenzene	99.1	70-130	

Project Location: 163 Glen St., Somerville, MA

Sample Description:

Work Order: 14A0607

Date Received: 1/21/2014

Field Sample #: TRC-1

Sampled: 1/21/2014 00:00

Sample ID: 14A0607-01

Sample Matrix: Ground Water

Semivolatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Acenaphthene	ND	5.0	µg/L	1		SW-846 8270D	1/21/14	1/24/14 17:30	CMR
Acenaphthylene	ND	5.0	µg/L	1		SW-846 8270D	1/21/14	1/24/14 17:30	CMR
Anthracene	ND	5.0	µg/L	1		SW-846 8270D	1/21/14	1/24/14 17:30	CMR
Benzo(a)anthracene	ND	5.0	µg/L	1		SW-846 8270D	1/21/14	1/24/14 17:30	CMR
Benzo(a)pyrene	ND	5.0	µg/L	1		SW-846 8270D	1/21/14	1/24/14 17:30	CMR
Benzo(b)fluoranthene	ND	5.0	µg/L	1		SW-846 8270D	1/21/14	1/24/14 17:30	CMR
Benzo(g,h,i)perylene	ND	5.0	µg/L	1		SW-846 8270D	1/21/14	1/24/14 17:30	CMR
Benzo(k)fluoranthene	ND	5.0	µg/L	1		SW-846 8270D	1/21/14	1/24/14 17:30	CMR
Chrysene	ND	5.0	µg/L	1		SW-846 8270D	1/21/14	1/24/14 17:30	CMR
Dibenz(a,h)anthracene	ND	5.0	µg/L	1		SW-846 8270D	1/21/14	1/24/14 17:30	CMR
Fluoranthene	ND	5.0	µg/L	1		SW-846 8270D	1/21/14	1/24/14 17:30	CMR
Fluorene	ND	5.0	µg/L	1	V-20	SW-846 8270D	1/21/14	1/24/14 17:30	CMR
Indeno(1,2,3-cd)pyrene	ND	5.0	µg/L	1		SW-846 8270D	1/21/14	1/24/14 17:30	CMR
2-Methylnaphthalene	ND	5.0	µg/L	1		SW-846 8270D	1/21/14	1/24/14 17:30	CMR
Naphthalene	ND	5.0	µg/L	1		SW-846 8270D	1/21/14	1/24/14 17:30	CMR
Phenanthrene	ND	5.0	µg/L	1		SW-846 8270D	1/21/14	1/24/14 17:30	CMR
Pyrene	ND	5.0	µg/L	1		SW-846 8270D	1/21/14	1/24/14 17:30	CMR
Surrogates	% Recovery	Recovery Limits			Flag/Qual				
Nitrobenzene-d5	67.6	30-130						1/24/14 17:30	
2-Fluorobiphenyl	67.0	30-130						1/24/14 17:30	
p-Terphenyl-d14	112	30-130						1/24/14 17:30	

Project Location: 163 Glen St., Somerville, MA

Sample Description:

Work Order: 14A0607

Date Received: 1/21/2014

Field Sample #: TRC-1

Sampled: 1/21/2014 00:00

Sample ID: 14A0607-01

Sample Matrix: Ground Water

Petroleum Hydrocarbons Analyses - EPH

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
C9-C18 Aliphatics	ND	100	µg/L	1		MADEP-EPH-04-1.1	1/25/14	1/27/14 15:48	SCS
C19-C36 Aliphatics	ND	100	µg/L	1		MADEP-EPH-04-1.1	1/25/14	1/27/14 15:48	SCS
Unadjusted C11-C22 Aromatics	ND	100	µg/L	1		MADEP-EPH-04-1.1	1/25/14	1/27/14 15:48	SCS
C11-C22 Aromatics	ND	100	µg/L	1		MADEP-EPH-04-1.1	1/25/14	1/27/14 15:48	SCS
Surrogates	% Recovery		Recovery Limits		Flag/Qual				
Chlorooctadecane (COD)	52.7		40-140				1/27/14 15:48		
o-Terphenyl (OTP)	79.0		40-140				1/27/14 15:48		
2-Bromonaphthalene	82.2		40-140				1/27/14 15:48		
2-Fluorobiphenyl	87.3		40-140				1/27/14 15:48		

Project Location: 163 Glen St., Somerville, MA

Sample Description:

Work Order: 14A0607

Date Received: 1/21/2014

Field Sample #: TRC-1

Sampled: 1/21/2014 00:00

Sample ID: 14A0607-01

Sample Matrix: Ground Water

Metals Analyses (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Antimony	ND	1.0	µg/L	1		SW-846 6020A	1/21/14	1/22/14 12:49	KSH
Arsenic	3.8	0.40	µg/L	1		SW-846 6020A	1/21/14	1/22/14 12:49	KSH
Barium	140	50	µg/L	5		SW-846 6020A	1/21/14	1/22/14 14:10	KSH
Beryllium	ND	0.40	µg/L	1		SW-846 6020A	1/21/14	1/22/14 12:49	KSH
Cadmium	ND	0.50	µg/L	1		SW-846 6020A	1/21/14	1/22/14 12:49	KSH
Chromium	14	1.0	µg/L	1		SW-846 6020A	1/21/14	1/22/14 12:49	KSH
Lead	14	1.0	µg/L	1		SW-846 6020A	1/21/14	1/22/14 12:49	KSH
Mercury	ND	0.00010	mg/L	1		SW-846 7470A	1/22/14	1/22/14 13:02	SAJ
Nickel	20	5.0	µg/L	1		SW-846 6020A	1/21/14	1/22/14 12:49	KSH
Selenium	ND	5.0	µg/L	1		SW-846 6020A	1/21/14	1/22/14 12:49	KSH
Silver	ND	0.50	µg/L	1		SW-846 6020A	1/21/14	1/22/14 12:49	KSH
Thallium	ND	0.20	µg/L	1		SW-846 6020A	1/21/14	1/22/14 12:49	KSH
Vanadium	18	5.0	µg/L	1		SW-846 6020A	1/21/14	1/22/14 12:49	KSH
Zinc	33	10	µg/L	1		SW-846 6020A	1/21/14	1/22/14 12:49	KSH

Project Location: 163 Glen St., Somerville, MA

Sample Description:

Work Order: 14A0607

Date Received: 1/21/2014

Field Sample #: TRC-2

Sampled: 1/21/2014 00:00

Sample ID: 14A0607-02

Sample Matrix: Ground Water

Volatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Acetone	ND	10	µg/L	1		SW-846 8260C	1/23/14	1/23/14 15:11	EEH
tert-Amyl Methyl Ether (TAME)	ND	0.50	µg/L	1		SW-846 8260C	1/23/14	1/23/14 15:11	EEH
Benzene	ND	1.0	µg/L	1		SW-846 8260C	1/23/14	1/23/14 15:11	EEH
Bromobenzene	ND	1.0	µg/L	1		SW-846 8260C	1/23/14	1/23/14 15:11	EEH
Bromochloromethane	ND	1.0	µg/L	1		SW-846 8260C	1/23/14	1/23/14 15:11	EEH
Bromodichloromethane	ND	1.0	µg/L	1		SW-846 8260C	1/23/14	1/23/14 15:11	EEH
Bromoform	ND	1.0	µg/L	1		SW-846 8260C	1/23/14	1/23/14 15:11	EEH
Bromomethane	ND	2.0	µg/L	1		SW-846 8260C	1/23/14	1/23/14 15:11	EEH
2-Butanone (MEK)	ND	10	µg/L	1		SW-846 8260C	1/23/14	1/23/14 15:11	EEH
n-Butylbenzene	ND	1.0	µg/L	1		SW-846 8260C	1/23/14	1/23/14 15:11	EEH
sec-Butylbenzene	ND	1.0	µg/L	1		SW-846 8260C	1/23/14	1/23/14 15:11	EEH
tert-Butylbenzene	ND	1.0	µg/L	1		SW-846 8260C	1/23/14	1/23/14 15:11	EEH
tert-Butyl Ethyl Ether (TBEE)	ND	0.50	µg/L	1		SW-846 8260C	1/23/14	1/23/14 15:11	EEH
Carbon Disulfide	ND	5.0	µg/L	1	RL-07	SW-846 8260C	1/23/14	1/23/14 15:11	EEH
Carbon Tetrachloride	ND	1.0	µg/L	1		SW-846 8260C	1/23/14	1/23/14 15:11	EEH
Chlorobenzene	ND	1.0	µg/L	1		SW-846 8260C	1/23/14	1/23/14 15:11	EEH
Chlorodibromomethane	ND	0.50	µg/L	1		SW-846 8260C	1/23/14	1/23/14 15:11	EEH
Chloroethane	ND	2.0	µg/L	1		SW-846 8260C	1/23/14	1/23/14 15:11	EEH
Chloroform	ND	5.0	µg/L	1	RL-07	SW-846 8260C	1/23/14	1/23/14 15:11	EEH
Chloromethane	ND	2.0	µg/L	1		SW-846 8260C	1/23/14	1/23/14 15:11	EEH
2-Chlorotoluene	ND	1.0	µg/L	1		SW-846 8260C	1/23/14	1/23/14 15:11	EEH
4-Chlorotoluene	ND	1.0	µg/L	1		SW-846 8260C	1/23/14	1/23/14 15:11	EEH
1,2-Dibromo-3-chloropropane (DBCP)	ND	2.0	µg/L	1		SW-846 8260C	1/23/14	1/23/14 15:11	EEH
1,2-Dibromoethane (EDB)	ND	0.50	µg/L	1		SW-846 8260C	1/23/14	1/23/14 15:11	EEH
Dibromomethane	ND	1.0	µg/L	1		SW-846 8260C	1/23/14	1/23/14 15:11	EEH
1,2-Dichlorobenzene	ND	1.0	µg/L	1		SW-846 8260C	1/23/14	1/23/14 15:11	EEH
1,3-Dichlorobenzene	ND	1.0	µg/L	1		SW-846 8260C	1/23/14	1/23/14 15:11	EEH
1,4-Dichlorobenzene	ND	1.0	µg/L	1		SW-846 8260C	1/23/14	1/23/14 15:11	EEH
Dichlorodifluoromethane (Freon 12)	ND	2.0	µg/L	1		SW-846 8260C	1/23/14	1/23/14 15:11	EEH
1,1-Dichloroethane	ND	1.0	µg/L	1		SW-846 8260C	1/23/14	1/23/14 15:11	EEH
1,2-Dichloroethane	ND	5.0	µg/L	1	RL-07	SW-846 8260C	1/23/14	1/23/14 15:11	EEH
1,1-Dichloroethylene	1.5	1.0	µg/L	1		SW-846 8260C	1/23/14	1/23/14 15:11	EEH
cis-1,2-Dichloroethylene	ND	1.0	µg/L	1		SW-846 8260C	1/23/14	1/23/14 15:11	EEH
trans-1,2-Dichloroethylene	ND	1.0	µg/L	1		SW-846 8260C	1/23/14	1/23/14 15:11	EEH
1,2-Dichloropropane	ND	1.0	µg/L	1		SW-846 8260C	1/23/14	1/23/14 15:11	EEH
1,3-Dichloropropane	ND	0.50	µg/L	1		SW-846 8260C	1/23/14	1/23/14 15:11	EEH
2,2-Dichloropropane	ND	1.0	µg/L	1		SW-846 8260C	1/23/14	1/23/14 15:11	EEH
1,1-Dichloropropene	ND	0.50	µg/L	1		SW-846 8260C	1/23/14	1/23/14 15:11	EEH
cis-1,3-Dichloropropene	ND	0.40	µg/L	1		SW-846 8260C	1/23/14	1/23/14 15:11	EEH
trans-1,3-Dichloropropene	ND	0.40	µg/L	1		SW-846 8260C	1/23/14	1/23/14 15:11	EEH
Diethyl Ether	ND	2.0	µg/L	1		SW-846 8260C	1/23/14	1/23/14 15:11	EEH
Diisopropyl Ether (DIPE)	ND	0.50	µg/L	1		SW-846 8260C	1/23/14	1/23/14 15:11	EEH
1,4-Dioxane	ND	50	µg/L	1	V-16	SW-846 8260C	1/23/14	1/23/14 15:11	EEH
Ethylbenzene	ND	1.0	µg/L	1		SW-846 8260C	1/23/14	1/23/14 15:11	EEH

Project Location: 163 Glen St., Somerville, MA

Sample Description:

Work Order: 14A0607

Date Received: 1/21/2014

Field Sample #: TRC-2

Sampled: 1/21/2014 00:00

Sample ID: 14A0607-02

Sample Matrix: Ground Water

Volatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Hexachlorobutadiene	ND	0.50	µg/L	1		SW-846 8260C	1/23/14	1/23/14 15:11	EEH
2-Hexanone (MBK)	ND	10	µg/L	1		SW-846 8260C	1/23/14	1/23/14 15:11	EEH
Isopropylbenzene (Cumene)	ND	1.0	µg/L	1		SW-846 8260C	1/23/14	1/23/14 15:11	EEH
p-Isopropyltoluene (p-Cymene)	ND	1.0	µg/L	1		SW-846 8260C	1/23/14	1/23/14 15:11	EEH
Methyl tert-Butyl Ether (MTBE)	ND	1.0	µg/L	1		SW-846 8260C	1/23/14	1/23/14 15:11	EEH
Methylene Chloride	ND	5.0	µg/L	1	RL-07	SW-846 8260C	1/23/14	1/23/14 15:11	EEH
4-Methyl-2-pentanone (MIBK)	ND	10	µg/L	1		SW-846 8260C	1/23/14	1/23/14 15:11	EEH
Naphthalene	ND	2.0	µg/L	1	L-04	SW-846 8260C	1/23/14	1/23/14 15:11	EEH
n-Propylbenzene	ND	1.0	µg/L	1		SW-846 8260C	1/23/14	1/23/14 15:11	EEH
Styrene	ND	1.0	µg/L	1		SW-846 8260C	1/23/14	1/23/14 15:11	EEH
1,1,1,2-Tetrachloroethane	ND	1.0	µg/L	1		SW-846 8260C	1/23/14	1/23/14 15:11	EEH
1,1,2,2-Tetrachloroethane	ND	0.50	µg/L	1		SW-846 8260C	1/23/14	1/23/14 15:11	EEH
Tetrachloroethylene	39	1.0	µg/L	1		SW-846 8260C	1/23/14	1/23/14 15:11	EEH
Tetrahydrofuran	ND	2.0	µg/L	1		SW-846 8260C	1/23/14	1/23/14 15:11	EEH
Toluene	ND	1.0	µg/L	1		SW-846 8260C	1/23/14	1/23/14 15:11	EEH
1,2,3-Trichlorobenzene	ND	2.0	µg/L	1		SW-846 8260C	1/23/14	1/23/14 15:11	EEH
1,2,4-Trichlorobenzene	ND	1.0	µg/L	1		SW-846 8260C	1/23/14	1/23/14 15:11	EEH
1,1,1-Trichloroethane	2.6	1.0	µg/L	1		SW-846 8260C	1/23/14	1/23/14 15:11	EEH
1,1,2-Trichloroethane	ND	1.0	µg/L	1		SW-846 8260C	1/23/14	1/23/14 15:11	EEH
Trichloroethylene	2.2	1.0	µg/L	1		SW-846 8260C	1/23/14	1/23/14 15:11	EEH
Trichlorofluoromethane (Freon 11)	ND	2.0	µg/L	1		SW-846 8260C	1/23/14	1/23/14 15:11	EEH
1,2,3-Trichloropropane	ND	2.0	µg/L	1		SW-846 8260C	1/23/14	1/23/14 15:11	EEH
1,2,4-Trimethylbenzene	ND	1.0	µg/L	1		SW-846 8260C	1/23/14	1/23/14 15:11	EEH
1,3,5-Trimethylbenzene	ND	1.0	µg/L	1		SW-846 8260C	1/23/14	1/23/14 15:11	EEH
Vinyl Chloride	ND	2.0	µg/L	1	L-04	SW-846 8260C	1/23/14	1/23/14 15:11	EEH
m+p Xylene	ND	2.0	µg/L	1		SW-846 8260C	1/23/14	1/23/14 15:11	EEH
o-Xylene	ND	1.0	µg/L	1		SW-846 8260C	1/23/14	1/23/14 15:11	EEH

Surrogates	% Recovery	Recovery Limits	Flag/Qual
1,2-Dichloroethane-d4	92.0	70-130	
Toluene-d8	103	70-130	
4-Bromofluorobenzene	99.6	70-130	

Project Location: 163 Glen St., Somerville, MA

Sample Description:

Work Order: 14A0607

Date Received: 1/21/2014

Field Sample #: TRC-2

Sampled: 1/21/2014 00:00

Sample ID: 14A0607-02

Sample Matrix: Ground Water

Semivolatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Acenaphthene	ND	5.0	µg/L	1		SW-846 8270D	1/21/14	1/24/14 17:59	CMR
Acenaphthylene	ND	5.0	µg/L	1		SW-846 8270D	1/21/14	1/24/14 17:59	CMR
Anthracene	ND	5.0	µg/L	1		SW-846 8270D	1/21/14	1/24/14 17:59	CMR
Benzo(a)anthracene	ND	5.0	µg/L	1		SW-846 8270D	1/21/14	1/24/14 17:59	CMR
Benzo(a)pyrene	ND	5.0	µg/L	1		SW-846 8270D	1/21/14	1/24/14 17:59	CMR
Benzo(b)fluoranthene	ND	5.0	µg/L	1		SW-846 8270D	1/21/14	1/24/14 17:59	CMR
Benzo(g,h,i)perylene	ND	5.0	µg/L	1		SW-846 8270D	1/21/14	1/24/14 17:59	CMR
Benzo(k)fluoranthene	ND	5.0	µg/L	1		SW-846 8270D	1/21/14	1/24/14 17:59	CMR
Chrysene	ND	5.0	µg/L	1		SW-846 8270D	1/21/14	1/24/14 17:59	CMR
Dibenz(a,h)anthracene	ND	5.0	µg/L	1		SW-846 8270D	1/21/14	1/24/14 17:59	CMR
Fluoranthene	ND	5.0	µg/L	1		SW-846 8270D	1/21/14	1/24/14 17:59	CMR
Fluorene	ND	5.0	µg/L	1	V-20	SW-846 8270D	1/21/14	1/24/14 17:59	CMR
Indeno(1,2,3-cd)pyrene	ND	5.0	µg/L	1		SW-846 8270D	1/21/14	1/24/14 17:59	CMR
2-Methylnaphthalene	ND	5.0	µg/L	1		SW-846 8270D	1/21/14	1/24/14 17:59	CMR
Naphthalene	ND	5.0	µg/L	1		SW-846 8270D	1/21/14	1/24/14 17:59	CMR
Phenanthrene	ND	5.0	µg/L	1		SW-846 8270D	1/21/14	1/24/14 17:59	CMR
Pyrene	ND	5.0	µg/L	1		SW-846 8270D	1/21/14	1/24/14 17:59	CMR
Surrogates	% Recovery	Recovery Limits	Flag/Qual						
Nitrobenzene-d5	67.5	30-130							
2-Fluorobiphenyl	71.1	30-130							
p-Terphenyl-d14	97.8	30-130							

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Project Location: 163 Glen St., Somerville, MA

Sample Description:

Work Order: 14A0607

Date Received: 1/21/2014

Field Sample #: TRC-2

Sampled: 1/21/2014 00:00

Sample ID: 14A0607-02

Sample Matrix: Ground Water

Petroleum Hydrocarbons Analyses - EPH

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
C9-C18 Aliphatics	ND	100	µg/L	1		MADEP-EPH-04-1.1	1/25/14	1/27/14 16:08	SCS
C19-C36 Aliphatics	ND	100	µg/L	1		MADEP-EPH-04-1.1	1/25/14	1/27/14 16:08	SCS
Unadjusted C11-C22 Aromatics	ND	100	µg/L	1		MADEP-EPH-04-1.1	1/25/14	1/27/14 16:08	SCS
C11-C22 Aromatics	ND	100	µg/L	1		MADEP-EPH-04-1.1	1/25/14	1/27/14 16:08	SCS
Surrogates	% Recovery	Recovery Limits	Flag/Qual						
Chlorooctadecane (COD)	53.6	40-140							
o-Terphenyl (OTP)	80.0	40-140							
2-Bromonaphthalene	83.2	40-140							
2-Fluorobiphenyl	89.1	40-140							

Project Location: 163 Glen St., Somerville, MA

Sample Description:

Work Order: 14A0607

Date Received: 1/21/2014

Field Sample #: TRC-2

Sampled: 1/21/2014 00:00

Sample ID: 14A0607-02

Sample Matrix: Ground Water

Metals Analyses (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Antimony	ND	1.0	µg/L	1		SW-846 6020A	1/21/14	1/22/14 12:28	KSH
Arsenic	ND	0.40	µg/L	1		SW-846 6020A	1/21/14	1/22/14 12:28	KSH
Barium	87	10	µg/L	1		SW-846 6020A	1/21/14	1/22/14 12:28	KSH
Beryllium	ND	0.40	µg/L	1		SW-846 6020A	1/21/14	1/22/14 12:28	KSH
Cadmium	ND	0.50	µg/L	1		SW-846 6020A	1/21/14	1/22/14 12:28	KSH
Chromium	ND	1.0	µg/L	1		SW-846 6020A	1/21/14	1/22/14 12:28	KSH
Lead	ND	1.0	µg/L	1		SW-846 6020A	1/21/14	1/22/14 12:28	KSH
Mercury	ND	0.00010	mg/L	1		SW-846 7470A	1/22/14	1/22/14 13:04	SAJ
Nickel	10	5.0	µg/L	1		SW-846 6020A	1/21/14	1/22/14 12:28	KSH
Selenium	ND	5.0	µg/L	1		SW-846 6020A	1/21/14	1/22/14 12:28	KSH
Silver	ND	0.50	µg/L	1		SW-846 6020A	1/21/14	1/22/14 12:28	KSH
Thallium	ND	0.20	µg/L	1		SW-846 6020A	1/21/14	1/22/14 12:28	KSH
Vanadium	ND	5.0	µg/L	1		SW-846 6020A	1/21/14	1/22/14 12:28	KSH
Zinc	ND	10	µg/L	1		SW-846 6020A	1/21/14	1/22/14 12:28	KSH

Project Location: 163 Glen St., Somerville, MA

Sample Description:

Work Order: 14A0607

Date Received: 1/21/2014

Field Sample #: TRC-3

Sampled: 1/21/2014 00:00

Sample ID: 14A0607-03

Sample Matrix: Ground Water

Volatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Acetone	ND	10	µg/L	1		SW-846 8260C	1/23/14	1/23/14 15:38	EEH
tert-Amyl Methyl Ether (TAME)	ND	0.50	µg/L	1		SW-846 8260C	1/23/14	1/23/14 15:38	EEH
Benzene	ND	1.0	µg/L	1		SW-846 8260C	1/23/14	1/23/14 15:38	EEH
Bromobenzene	ND	1.0	µg/L	1		SW-846 8260C	1/23/14	1/23/14 15:38	EEH
Bromochloromethane	ND	1.0	µg/L	1		SW-846 8260C	1/23/14	1/23/14 15:38	EEH
Bromodichloromethane	ND	1.0	µg/L	1		SW-846 8260C	1/23/14	1/23/14 15:38	EEH
Bromoform	ND	1.0	µg/L	1		SW-846 8260C	1/23/14	1/23/14 15:38	EEH
Bromomethane	ND	2.0	µg/L	1		SW-846 8260C	1/23/14	1/23/14 15:38	EEH
2-Butanone (MEK)	ND	10	µg/L	1		SW-846 8260C	1/23/14	1/23/14 15:38	EEH
n-Butylbenzene	ND	1.0	µg/L	1		SW-846 8260C	1/23/14	1/23/14 15:38	EEH
sec-Butylbenzene	ND	1.0	µg/L	1		SW-846 8260C	1/23/14	1/23/14 15:38	EEH
tert-Butylbenzene	ND	1.0	µg/L	1		SW-846 8260C	1/23/14	1/23/14 15:38	EEH
tert-Butyl Ethyl Ether (TBEE)	ND	0.50	µg/L	1		SW-846 8260C	1/23/14	1/23/14 15:38	EEH
Carbon Disulfide	ND	5.0	µg/L	1	RL-07	SW-846 8260C	1/23/14	1/23/14 15:38	EEH
Carbon Tetrachloride	ND	1.0	µg/L	1		SW-846 8260C	1/23/14	1/23/14 15:38	EEH
Chlorobenzene	ND	1.0	µg/L	1		SW-846 8260C	1/23/14	1/23/14 15:38	EEH
Chlorodibromomethane	ND	0.50	µg/L	1		SW-846 8260C	1/23/14	1/23/14 15:38	EEH
Chloroethane	ND	2.0	µg/L	1		SW-846 8260C	1/23/14	1/23/14 15:38	EEH
Chloroform	ND	5.0	µg/L	1	RL-07	SW-846 8260C	1/23/14	1/23/14 15:38	EEH
Chloromethane	ND	2.0	µg/L	1		SW-846 8260C	1/23/14	1/23/14 15:38	EEH
2-Chlorotoluene	ND	1.0	µg/L	1		SW-846 8260C	1/23/14	1/23/14 15:38	EEH
4-Chlorotoluene	ND	1.0	µg/L	1		SW-846 8260C	1/23/14	1/23/14 15:38	EEH
1,2-Dibromo-3-chloropropane (DBCP)	ND	2.0	µg/L	1		SW-846 8260C	1/23/14	1/23/14 15:38	EEH
1,2-Dibromoethane (EDB)	ND	0.50	µg/L	1		SW-846 8260C	1/23/14	1/23/14 15:38	EEH
Dibromomethane	ND	1.0	µg/L	1		SW-846 8260C	1/23/14	1/23/14 15:38	EEH
1,2-Dichlorobenzene	ND	1.0	µg/L	1		SW-846 8260C	1/23/14	1/23/14 15:38	EEH
1,3-Dichlorobenzene	ND	1.0	µg/L	1		SW-846 8260C	1/23/14	1/23/14 15:38	EEH
1,4-Dichlorobenzene	ND	1.0	µg/L	1		SW-846 8260C	1/23/14	1/23/14 15:38	EEH
Dichlorodifluoromethane (Freon 12)	ND	2.0	µg/L	1		SW-846 8260C	1/23/14	1/23/14 15:38	EEH
1,1-Dichloroethane	ND	1.0	µg/L	1		SW-846 8260C	1/23/14	1/23/14 15:38	EEH
1,2-Dichloroethane	ND	5.0	µg/L	1	RL-07	SW-846 8260C	1/23/14	1/23/14 15:38	EEH
1,1-Dichloroethylene	2.8	1.0	µg/L	1		SW-846 8260C	1/23/14	1/23/14 15:38	EEH
cis-1,2-Dichloroethylene	ND	1.0	µg/L	1		SW-846 8260C	1/23/14	1/23/14 15:38	EEH
trans-1,2-Dichloroethylene	ND	1.0	µg/L	1		SW-846 8260C	1/23/14	1/23/14 15:38	EEH
1,2-Dichloropropane	ND	1.0	µg/L	1		SW-846 8260C	1/23/14	1/23/14 15:38	EEH
1,3-Dichloropropane	ND	0.50	µg/L	1		SW-846 8260C	1/23/14	1/23/14 15:38	EEH
2,2-Dichloropropane	ND	1.0	µg/L	1		SW-846 8260C	1/23/14	1/23/14 15:38	EEH
1,1-Dichloropropene	ND	0.50	µg/L	1		SW-846 8260C	1/23/14	1/23/14 15:38	EEH
cis-1,3-Dichloropropene	ND	0.40	µg/L	1		SW-846 8260C	1/23/14	1/23/14 15:38	EEH
trans-1,3-Dichloropropene	ND	0.40	µg/L	1		SW-846 8260C	1/23/14	1/23/14 15:38	EEH
Diethyl Ether	ND	2.0	µg/L	1		SW-846 8260C	1/23/14	1/23/14 15:38	EEH
Diisopropyl Ether (DIPE)	ND	0.50	µg/L	1		SW-846 8260C	1/23/14	1/23/14 15:38	EEH
1,4-Dioxane	ND	50	µg/L	1	V-16	SW-846 8260C	1/23/14	1/23/14 15:38	EEH
Ethylbenzene	ND	1.0	µg/L	1		SW-846 8260C	1/23/14	1/23/14 15:38	EEH

Project Location: 163 Glen St., Somerville, MA

Sample Description:

Work Order: 14A0607

Date Received: 1/21/2014

Field Sample #: TRC-3

Sampled: 1/21/2014 00:00

Sample ID: 14A0607-03

Sample Matrix: Ground Water

Volatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Hexachlorobutadiene	ND	0.50	µg/L	1		SW-846 8260C	1/23/14	1/23/14 15:38	EEH
2-Hexanone (MBK)	ND	10	µg/L	1		SW-846 8260C	1/23/14	1/23/14 15:38	EEH
Isopropylbenzene (Cumene)	ND	1.0	µg/L	1		SW-846 8260C	1/23/14	1/23/14 15:38	EEH
p-Isopropyltoluene (p-Cymene)	ND	1.0	µg/L	1		SW-846 8260C	1/23/14	1/23/14 15:38	EEH
Methyl tert-Butyl Ether (MTBE)	ND	1.0	µg/L	1		SW-846 8260C	1/23/14	1/23/14 15:38	EEH
Methylene Chloride	ND	5.0	µg/L	1	RL-07	SW-846 8260C	1/23/14	1/23/14 15:38	EEH
4-Methyl-2-pentanone (MIBK)	ND	10	µg/L	1		SW-846 8260C	1/23/14	1/23/14 15:38	EEH
Naphthalene	20	2.0	µg/L	1	L-04	SW-846 8260C	1/23/14	1/23/14 15:38	EEH
n-Propylbenzene	ND	1.0	µg/L	1		SW-846 8260C	1/23/14	1/23/14 15:38	EEH
Styrene	ND	1.0	µg/L	1		SW-846 8260C	1/23/14	1/23/14 15:38	EEH
1,1,1,2-Tetrachloroethane	ND	1.0	µg/L	1		SW-846 8260C	1/23/14	1/23/14 15:38	EEH
1,1,2,2-Tetrachloroethane	ND	0.50	µg/L	1		SW-846 8260C	1/23/14	1/23/14 15:38	EEH
Tetrachloroethylene	17	1.0	µg/L	1		SW-846 8260C	1/23/14	1/23/14 15:38	EEH
Tetrahydrofuran	ND	2.0	µg/L	1		SW-846 8260C	1/23/14	1/23/14 15:38	EEH
Toluene	ND	1.0	µg/L	1		SW-846 8260C	1/23/14	1/23/14 15:38	EEH
1,2,3-Trichlorobenzene	ND	2.0	µg/L	1		SW-846 8260C	1/23/14	1/23/14 15:38	EEH
1,2,4-Trichlorobenzene	ND	1.0	µg/L	1		SW-846 8260C	1/23/14	1/23/14 15:38	EEH
1,1,1-Trichloroethane	1.6	1.0	µg/L	1		SW-846 8260C	1/23/14	1/23/14 15:38	EEH
1,1,2-Trichloroethane	ND	1.0	µg/L	1		SW-846 8260C	1/23/14	1/23/14 15:38	EEH
Trichloroethylene	1.2	1.0	µg/L	1		SW-846 8260C	1/23/14	1/23/14 15:38	EEH
Trichlorofluoromethane (Freon 11)	ND	2.0	µg/L	1		SW-846 8260C	1/23/14	1/23/14 15:38	EEH
1,2,3-Trichloropropane	ND	2.0	µg/L	1		SW-846 8260C	1/23/14	1/23/14 15:38	EEH
1,2,4-Trimethylbenzene	ND	1.0	µg/L	1		SW-846 8260C	1/23/14	1/23/14 15:38	EEH
1,3,5-Trimethylbenzene	ND	1.0	µg/L	1		SW-846 8260C	1/23/14	1/23/14 15:38	EEH
Vinyl Chloride	ND	2.0	µg/L	1	L-04	SW-846 8260C	1/23/14	1/23/14 15:38	EEH
m+p Xylene	ND	2.0	µg/L	1		SW-846 8260C	1/23/14	1/23/14 15:38	EEH
o-Xylene	ND	1.0	µg/L	1		SW-846 8260C	1/23/14	1/23/14 15:38	EEH

Surrogates	% Recovery	Recovery Limits	Flag/Qual
1,2-Dichloroethane-d4	89.1	70-130	
Toluene-d8	105	70-130	
4-Bromofluorobenzene	100	70-130	

Project Location: 163 Glen St., Somerville, MA

Sample Description:

Work Order: 14A0607

Date Received: 1/21/2014

Field Sample #: TRC-3

Sampled: 1/21/2014 00:00

Sample ID: 14A0607-03

Sample Matrix: Ground Water

Semivolatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Acenaphthene	ND	5.0	µg/L	1		SW-846 8270D	1/21/14	1/24/14 18:28	CMR
Acenaphthylene	ND	5.0	µg/L	1		SW-846 8270D	1/21/14	1/24/14 18:28	CMR
Anthracene	ND	5.0	µg/L	1		SW-846 8270D	1/21/14	1/24/14 18:28	CMR
Benzo(a)anthracene	ND	5.0	µg/L	1		SW-846 8270D	1/21/14	1/24/14 18:28	CMR
Benzo(a)pyrene	ND	5.0	µg/L	1		SW-846 8270D	1/21/14	1/24/14 18:28	CMR
Benzo(b)fluoranthene	ND	5.0	µg/L	1		SW-846 8270D	1/21/14	1/24/14 18:28	CMR
Benzo(g,h,i)perylene	ND	5.0	µg/L	1		SW-846 8270D	1/21/14	1/24/14 18:28	CMR
Benzo(k)fluoranthene	ND	5.0	µg/L	1		SW-846 8270D	1/21/14	1/24/14 18:28	CMR
Chrysene	ND	5.0	µg/L	1		SW-846 8270D	1/21/14	1/24/14 18:28	CMR
Dibenz(a,h)anthracene	ND	5.0	µg/L	1		SW-846 8270D	1/21/14	1/24/14 18:28	CMR
Fluoranthene	ND	5.0	µg/L	1		SW-846 8270D	1/21/14	1/24/14 18:28	CMR
Fluorene	ND	5.0	µg/L	1	V-20	SW-846 8270D	1/21/14	1/24/14 18:28	CMR
Indeno(1,2,3-cd)pyrene	ND	5.0	µg/L	1		SW-846 8270D	1/21/14	1/24/14 18:28	CMR
2-Methylnaphthalene	ND	5.0	µg/L	1		SW-846 8270D	1/21/14	1/24/14 18:28	CMR
Naphthalene	10	5.0	µg/L	1		SW-846 8270D	1/21/14	1/24/14 18:28	CMR
Phenanthrene	ND	5.0	µg/L	1		SW-846 8270D	1/21/14	1/24/14 18:28	CMR
Pyrene	ND	5.0	µg/L	1		SW-846 8270D	1/21/14	1/24/14 18:28	CMR
Surrogates	% Recovery		Recovery Limits		Flag/Qual				
Nitrobenzene-d5	70.8		30-130				1/24/14 18:28		
2-Fluorobiphenyl	69.6		30-130				1/24/14 18:28		
p-Terphenyl-d14	113		30-130				1/24/14 18:28		

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Project Location: 163 Glen St., Somerville, MA

Sample Description:

Work Order: 14A0607

Date Received: 1/21/2014

Field Sample #: TRC-3

Sampled: 1/21/2014 00:00

Sample ID: 14A0607-03

Sample Matrix: Ground Water

Petroleum Hydrocarbons Analyses - EPH

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
C9-C18 Aliphatics	ND	100	µg/L	1		MADEP-EPH-04-1.1	1/25/14	1/27/14 16:29	SCS
C19-C36 Aliphatics	ND	100	µg/L	1		MADEP-EPH-04-1.1	1/25/14	1/27/14 16:29	SCS
Unadjusted C11-C22 Aromatics	170	100	µg/L	1		MADEP-EPH-04-1.1	1/25/14	1/27/14 16:29	SCS
C11-C22 Aromatics	130	100	µg/L	1		MADEP-EPH-04-1.1	1/25/14	1/27/14 16:29	SCS
Surrogates	% Recovery		Recovery Limits		Flag/Qual				
Chlorooctadecane (COD)	52.4		40-140				1/27/14 16:29		
o-Terphenyl (OTP)	75.3		40-140				1/27/14 16:29		
2-Bromonaphthalene	84.6		40-140				1/27/14 16:29		
2-Fluorobiphenyl	89.8		40-140				1/27/14 16:29		

Project Location: 163 Glen St., Somerville, MA

Sample Description:

Work Order: 14A0607

Date Received: 1/21/2014

Field Sample #: TRC-3

Sampled: 1/21/2014 00:00

Sample ID: 14A0607-03

Sample Matrix: Ground Water

Metals Analyses (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Antimony	ND	1.0	µg/L	1		SW-846 6020A	1/21/14	1/22/14 12:53	KSH
Arsenic	1.4	0.40	µg/L	1		SW-846 6020A	1/21/14	1/22/14 12:53	KSH
Barium	89	10	µg/L	1		SW-846 6020A	1/21/14	1/22/14 12:53	KSH
Beryllium	ND	0.40	µg/L	1		SW-846 6020A	1/21/14	1/22/14 12:53	KSH
Cadmium	ND	0.50	µg/L	1		SW-846 6020A	1/21/14	1/22/14 12:53	KSH
Chromium	3.8	1.0	µg/L	1		SW-846 6020A	1/21/14	1/22/14 12:53	KSH
Lead	9.3	1.0	µg/L	1		SW-846 6020A	1/21/14	1/22/14 12:53	KSH
Mercury	ND	0.00010	mg/L	1		SW-846 7470A	1/22/14	1/22/14 13:06	SAJ
Nickel	10	5.0	µg/L	1		SW-846 6020A	1/21/14	1/22/14 12:53	KSH
Selenium	ND	5.0	µg/L	1		SW-846 6020A	1/21/14	1/22/14 12:53	KSH
Silver	ND	0.50	µg/L	1		SW-846 6020A	1/21/14	1/22/14 12:53	KSH
Thallium	ND	0.20	µg/L	1		SW-846 6020A	1/21/14	1/22/14 12:53	KSH
Vanadium	ND	5.0	µg/L	1		SW-846 6020A	1/21/14	1/22/14 12:53	KSH
Zinc	15	10	µg/L	1		SW-846 6020A	1/21/14	1/22/14 12:53	KSH

Project Location: 163 Glen St., Somerville, MA

Sample Description:

Work Order: 14A0607

Date Received: 1/21/2014

Field Sample #: TRC-4

Sampled: 1/21/2014 00:00

Sample ID: 14A0607-04

Sample Matrix: Ground Water

Volatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Acetone	ND	10	µg/L	1		SW-846 8260C	1/23/14	1/23/14 16:04	EEH
tert-Amyl Methyl Ether (TAME)	ND	0.50	µg/L	1		SW-846 8260C	1/23/14	1/23/14 16:04	EEH
Benzene	ND	1.0	µg/L	1		SW-846 8260C	1/23/14	1/23/14 16:04	EEH
Bromobenzene	ND	1.0	µg/L	1		SW-846 8260C	1/23/14	1/23/14 16:04	EEH
Bromochloromethane	ND	1.0	µg/L	1		SW-846 8260C	1/23/14	1/23/14 16:04	EEH
Bromodichloromethane	ND	1.0	µg/L	1		SW-846 8260C	1/23/14	1/23/14 16:04	EEH
Bromoform	ND	1.0	µg/L	1		SW-846 8260C	1/23/14	1/23/14 16:04	EEH
Bromomethane	ND	2.0	µg/L	1		SW-846 8260C	1/23/14	1/23/14 16:04	EEH
2-Butanone (MEK)	ND	10	µg/L	1		SW-846 8260C	1/23/14	1/23/14 16:04	EEH
n-Butylbenzene	ND	1.0	µg/L	1		SW-846 8260C	1/23/14	1/23/14 16:04	EEH
sec-Butylbenzene	ND	1.0	µg/L	1		SW-846 8260C	1/23/14	1/23/14 16:04	EEH
tert-Butylbenzene	ND	1.0	µg/L	1		SW-846 8260C	1/23/14	1/23/14 16:04	EEH
tert-Butyl Ethyl Ether (TBEE)	ND	0.50	µg/L	1		SW-846 8260C	1/23/14	1/23/14 16:04	EEH
Carbon Disulfide	ND	5.0	µg/L	1	RL-07	SW-846 8260C	1/23/14	1/23/14 16:04	EEH
Carbon Tetrachloride	ND	1.0	µg/L	1		SW-846 8260C	1/23/14	1/23/14 16:04	EEH
Chlorobenzene	ND	1.0	µg/L	1		SW-846 8260C	1/23/14	1/23/14 16:04	EEH
Chlorodibromomethane	ND	0.50	µg/L	1		SW-846 8260C	1/23/14	1/23/14 16:04	EEH
Chloroethane	ND	2.0	µg/L	1		SW-846 8260C	1/23/14	1/23/14 16:04	EEH
Chloroform	ND	5.0	µg/L	1	RL-07	SW-846 8260C	1/23/14	1/23/14 16:04	EEH
Chloromethane	ND	2.0	µg/L	1		SW-846 8260C	1/23/14	1/23/14 16:04	EEH
2-Chlorotoluene	ND	1.0	µg/L	1		SW-846 8260C	1/23/14	1/23/14 16:04	EEH
4-Chlorotoluene	ND	1.0	µg/L	1		SW-846 8260C	1/23/14	1/23/14 16:04	EEH
1,2-Dibromo-3-chloropropane (DBCP)	ND	2.0	µg/L	1		SW-846 8260C	1/23/14	1/23/14 16:04	EEH
1,2-Dibromoethane (EDB)	ND	0.50	µg/L	1		SW-846 8260C	1/23/14	1/23/14 16:04	EEH
Dibromomethane	ND	1.0	µg/L	1		SW-846 8260C	1/23/14	1/23/14 16:04	EEH
1,2-Dichlorobenzene	ND	1.0	µg/L	1		SW-846 8260C	1/23/14	1/23/14 16:04	EEH
1,3-Dichlorobenzene	ND	1.0	µg/L	1		SW-846 8260C	1/23/14	1/23/14 16:04	EEH
1,4-Dichlorobenzene	ND	1.0	µg/L	1		SW-846 8260C	1/23/14	1/23/14 16:04	EEH
Dichlorodifluoromethane (Freon 12)	ND	2.0	µg/L	1		SW-846 8260C	1/23/14	1/23/14 16:04	EEH
1,1-Dichloroethane	ND	1.0	µg/L	1		SW-846 8260C	1/23/14	1/23/14 16:04	EEH
1,2-Dichloroethane	ND	5.0	µg/L	1	RL-07	SW-846 8260C	1/23/14	1/23/14 16:04	EEH
1,1-Dichloroethylene	24	1.0	µg/L	1		SW-846 8260C	1/23/14	1/23/14 16:04	EEH
cis-1,2-Dichloroethylene	ND	1.0	µg/L	1		SW-846 8260C	1/23/14	1/23/14 16:04	EEH
trans-1,2-Dichloroethylene	ND	1.0	µg/L	1		SW-846 8260C	1/23/14	1/23/14 16:04	EEH
1,2-Dichloropropane	ND	1.0	µg/L	1		SW-846 8260C	1/23/14	1/23/14 16:04	EEH
1,3-Dichloropropane	ND	0.50	µg/L	1		SW-846 8260C	1/23/14	1/23/14 16:04	EEH
2,2-Dichloropropane	ND	1.0	µg/L	1		SW-846 8260C	1/23/14	1/23/14 16:04	EEH
1,1-Dichloropropene	ND	0.50	µg/L	1		SW-846 8260C	1/23/14	1/23/14 16:04	EEH
cis-1,3-Dichloropropene	ND	0.40	µg/L	1		SW-846 8260C	1/23/14	1/23/14 16:04	EEH
trans-1,3-Dichloropropene	ND	0.40	µg/L	1		SW-846 8260C	1/23/14	1/23/14 16:04	EEH
Diethyl Ether	ND	2.0	µg/L	1		SW-846 8260C	1/23/14	1/23/14 16:04	EEH
Diisopropyl Ether (DIPE)	ND	0.50	µg/L	1		SW-846 8260C	1/23/14	1/23/14 16:04	EEH
1,4-Dioxane	ND	50	µg/L	1	V-16	SW-846 8260C	1/23/14	1/23/14 16:04	EEH
Ethylbenzene	ND	1.0	µg/L	1		SW-846 8260C	1/23/14	1/23/14 16:04	EEH

Project Location: 163 Glen St., Somerville, MA

Sample Description:

Work Order: 14A0607

Date Received: 1/21/2014

Field Sample #: TRC-4

Sampled: 1/21/2014 00:00

Sample ID: 14A0607-04

Sample Matrix: Ground Water

Volatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Hexachlorobutadiene	ND	0.50	µg/L	1		SW-846 8260C	1/23/14	1/23/14 16:04	EEH
2-Hexanone (MBK)	ND	10	µg/L	1		SW-846 8260C	1/23/14	1/23/14 16:04	EEH
Isopropylbenzene (Cumene)	ND	1.0	µg/L	1		SW-846 8260C	1/23/14	1/23/14 16:04	EEH
p-Isopropyltoluene (p-Cymene)	ND	1.0	µg/L	1		SW-846 8260C	1/23/14	1/23/14 16:04	EEH
Methyl tert-Butyl Ether (MTBE)	ND	1.0	µg/L	1		SW-846 8260C	1/23/14	1/23/14 16:04	EEH
Methylene Chloride	ND	5.0	µg/L	1	RL-07	SW-846 8260C	1/23/14	1/23/14 16:04	EEH
4-Methyl-2-pentanone (MIBK)	ND	10	µg/L	1		SW-846 8260C	1/23/14	1/23/14 16:04	EEH
Naphthalene	ND	2.0	µg/L	1	L-04	SW-846 8260C	1/23/14	1/23/14 16:04	EEH
n-Propylbenzene	ND	1.0	µg/L	1		SW-846 8260C	1/23/14	1/23/14 16:04	EEH
Styrene	ND	1.0	µg/L	1		SW-846 8260C	1/23/14	1/23/14 16:04	EEH
1,1,1,2-Tetrachloroethane	ND	1.0	µg/L	1		SW-846 8260C	1/23/14	1/23/14 16:04	EEH
1,1,2,2-Tetrachloroethane	ND	0.50	µg/L	1		SW-846 8260C	1/23/14	1/23/14 16:04	EEH
Tetrachloroethylene	32	1.0	µg/L	1		SW-846 8260C	1/23/14	1/23/14 16:04	EEH
Tetrahydrofuran	ND	2.0	µg/L	1		SW-846 8260C	1/23/14	1/23/14 16:04	EEH
Toluene	ND	1.0	µg/L	1		SW-846 8260C	1/23/14	1/23/14 16:04	EEH
1,2,3-Trichlorobenzene	ND	2.0	µg/L	1		SW-846 8260C	1/23/14	1/23/14 16:04	EEH
1,2,4-Trichlorobenzene	ND	1.0	µg/L	1		SW-846 8260C	1/23/14	1/23/14 16:04	EEH
1,1,1-Trichloroethane	8.1	1.0	µg/L	1		SW-846 8260C	1/23/14	1/23/14 16:04	EEH
1,1,2-Trichloroethane	ND	1.0	µg/L	1		SW-846 8260C	1/23/14	1/23/14 16:04	EEH
Trichloroethylene	3.8	1.0	µg/L	1		SW-846 8260C	1/23/14	1/23/14 16:04	EEH
Trichlorofluoromethane (Freon 11)	ND	2.0	µg/L	1		SW-846 8260C	1/23/14	1/23/14 16:04	EEH
1,2,3-Trichloropropane	ND	2.0	µg/L	1		SW-846 8260C	1/23/14	1/23/14 16:04	EEH
1,2,4-Trimethylbenzene	ND	1.0	µg/L	1		SW-846 8260C	1/23/14	1/23/14 16:04	EEH
1,3,5-Trimethylbenzene	ND	1.0	µg/L	1		SW-846 8260C	1/23/14	1/23/14 16:04	EEH
Vinyl Chloride	ND	2.0	µg/L	1	L-04	SW-846 8260C	1/23/14	1/23/14 16:04	EEH
m+p Xylene	ND	2.0	µg/L	1		SW-846 8260C	1/23/14	1/23/14 16:04	EEH
o-Xylene	ND	1.0	µg/L	1		SW-846 8260C	1/23/14	1/23/14 16:04	EEH

Surrogates	% Recovery	Recovery Limits	Flag/Qual
1,2-Dichloroethane-d4	90.5	70-130	
Toluene-d8	102	70-130	
4-Bromofluorobenzene	100	70-130	

Project Location: 163 Glen St., Somerville, MA

Sample Description:

Work Order: 14A0607

Date Received: 1/21/2014

Field Sample #: TRC-4

Sampled: 1/21/2014 00:00

Sample ID: 14A0607-04

Sample Matrix: Ground Water

Semivolatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Acenaphthene	ND	5.0	µg/L	1		SW-846 8270D	1/21/14	1/24/14 18:57	CMR
Acenaphthylene	ND	5.0	µg/L	1		SW-846 8270D	1/21/14	1/24/14 18:57	CMR
Anthracene	ND	5.0	µg/L	1		SW-846 8270D	1/21/14	1/24/14 18:57	CMR
Benzo(a)anthracene	ND	5.0	µg/L	1		SW-846 8270D	1/21/14	1/24/14 18:57	CMR
Benzo(a)pyrene	ND	5.0	µg/L	1		SW-846 8270D	1/21/14	1/24/14 18:57	CMR
Benzo(b)fluoranthene	ND	5.0	µg/L	1		SW-846 8270D	1/21/14	1/24/14 18:57	CMR
Benzo(g,h,i)perylene	ND	5.0	µg/L	1		SW-846 8270D	1/21/14	1/24/14 18:57	CMR
Benzo(k)fluoranthene	ND	5.0	µg/L	1		SW-846 8270D	1/21/14	1/24/14 18:57	CMR
Chrysene	ND	5.0	µg/L	1		SW-846 8270D	1/21/14	1/24/14 18:57	CMR
Dibenz(a,h)anthracene	ND	5.0	µg/L	1		SW-846 8270D	1/21/14	1/24/14 18:57	CMR
Fluoranthene	ND	5.0	µg/L	1		SW-846 8270D	1/21/14	1/24/14 18:57	CMR
Fluorene	ND	5.0	µg/L	1	V-20	SW-846 8270D	1/21/14	1/24/14 18:57	CMR
Indeno(1,2,3-cd)pyrene	ND	5.0	µg/L	1		SW-846 8270D	1/21/14	1/24/14 18:57	CMR
2-Methylnaphthalene	ND	5.0	µg/L	1		SW-846 8270D	1/21/14	1/24/14 18:57	CMR
Naphthalene	ND	5.0	µg/L	1		SW-846 8270D	1/21/14	1/24/14 18:57	CMR
Phenanthrene	ND	5.0	µg/L	1		SW-846 8270D	1/21/14	1/24/14 18:57	CMR
Pyrene	ND	5.0	µg/L	1		SW-846 8270D	1/21/14	1/24/14 18:57	CMR
Surrogates	% Recovery	Recovery Limits			Flag/Qual				
Nitrobenzene-d5	49.5	30-130						1/24/14 18:57	
2-Fluorobiphenyl	49.6	30-130						1/24/14 18:57	
p-Terphenyl-d14	91.4	30-130						1/24/14 18:57	

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Project Location: 163 Glen St., Somerville, MA

Sample Description:

Work Order: 14A0607

Date Received: 1/21/2014

Field Sample #: TRC-4

Sampled: 1/21/2014 00:00

Sample ID: 14A0607-04

Sample Matrix: Ground Water

Petroleum Hydrocarbons Analyses - EPH

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
C9-C18 Aliphatics	ND	100	µg/L	1		MADEP-EPH-04-1.1	1/25/14	1/27/14 16:50	SCS
C19-C36 Aliphatics	ND	100	µg/L	1		MADEP-EPH-04-1.1	1/25/14	1/27/14 16:50	SCS
Unadjusted C11-C22 Aromatics	ND	100	µg/L	1		MADEP-EPH-04-1.1	1/25/14	1/27/14 16:50	SCS
C11-C22 Aromatics	ND	100	µg/L	1		MADEP-EPH-04-1.1	1/25/14	1/27/14 16:50	SCS
Surrogates	% Recovery	Recovery Limits	Flag/Qual						
Chlorooctadecane (COD)	64.6	40-140							
o-Terphenyl (OTP)	87.0	40-140							
2-Bromonaphthalene	91.5	40-140							
2-Fluorobiphenyl	98.3	40-140							

Project Location: 163 Glen St., Somerville, MA

Sample Description:

Work Order: 14A0607

Date Received: 1/21/2014

Field Sample #: TRC-4

Sampled: 1/21/2014 00:00

Sample ID: 14A0607-04

Sample Matrix: Ground Water

Metals Analyses (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Antimony	ND	1.0	µg/L	1		SW-846 6020A	1/21/14	1/22/14 12:57	KSH
Arsenic	0.91	0.40	µg/L	1		SW-846 6020A	1/21/14	1/22/14 12:57	KSH
Barium	100	20	µg/L	2		SW-846 6020A	1/21/14	1/22/14 14:14	KSH
Beryllium	ND	0.40	µg/L	1		SW-846 6020A	1/21/14	1/22/14 12:57	KSH
Cadmium	ND	0.50	µg/L	1		SW-846 6020A	1/21/14	1/22/14 12:57	KSH
Chromium	ND	1.0	µg/L	1		SW-846 6020A	1/21/14	1/22/14 12:57	KSH
Lead	ND	1.0	µg/L	1		SW-846 6020A	1/21/14	1/22/14 12:57	KSH
Mercury	ND	0.00010	mg/L	1		SW-846 7470A	1/22/14	1/22/14 13:07	SAJ
Nickel	16	5.0	µg/L	1		SW-846 6020A	1/21/14	1/22/14 12:57	KSH
Selenium	ND	5.0	µg/L	1		SW-846 6020A	1/21/14	1/22/14 12:57	KSH
Silver	ND	0.50	µg/L	1		SW-846 6020A	1/21/14	1/22/14 12:57	KSH
Thallium	ND	0.20	µg/L	1		SW-846 6020A	1/21/14	1/22/14 12:57	KSH
Vanadium	ND	5.0	µg/L	1		SW-846 6020A	1/21/14	1/22/14 12:57	KSH
Zinc	ND	10	µg/L	1		SW-846 6020A	1/21/14	1/22/14 12:57	KSH

Project Location: 163 Glen St., Somerville, MA

Sample Description:

Work Order: 14A0607

Date Received: 1/21/2014

Field Sample #: Dup-1

Sampled: 1/21/2014 00:00

Sample ID: 14A0607-05

Sample Matrix: Ground Water

Volatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Acetone	ND	10	µg/L	1		SW-846 8260C	1/23/14	1/23/14 16:31	EEH
tert-Amyl Methyl Ether (TAME)	ND	0.50	µg/L	1		SW-846 8260C	1/23/14	1/23/14 16:31	EEH
Benzene	ND	1.0	µg/L	1		SW-846 8260C	1/23/14	1/23/14 16:31	EEH
Bromobenzene	ND	1.0	µg/L	1		SW-846 8260C	1/23/14	1/23/14 16:31	EEH
Bromochloromethane	ND	1.0	µg/L	1		SW-846 8260C	1/23/14	1/23/14 16:31	EEH
Bromodichloromethane	ND	1.0	µg/L	1		SW-846 8260C	1/23/14	1/23/14 16:31	EEH
Bromoform	ND	1.0	µg/L	1		SW-846 8260C	1/23/14	1/23/14 16:31	EEH
Bromomethane	ND	2.0	µg/L	1		SW-846 8260C	1/23/14	1/23/14 16:31	EEH
2-Butanone (MEK)	ND	10	µg/L	1		SW-846 8260C	1/23/14	1/23/14 16:31	EEH
n-Butylbenzene	ND	1.0	µg/L	1		SW-846 8260C	1/23/14	1/23/14 16:31	EEH
sec-Butylbenzene	ND	1.0	µg/L	1		SW-846 8260C	1/23/14	1/23/14 16:31	EEH
tert-Butylbenzene	ND	1.0	µg/L	1		SW-846 8260C	1/23/14	1/23/14 16:31	EEH
tert-Butyl Ethyl Ether (TBEE)	ND	0.50	µg/L	1		SW-846 8260C	1/23/14	1/23/14 16:31	EEH
Carbon Disulfide	ND	5.0	µg/L	1	RL-07	SW-846 8260C	1/23/14	1/23/14 16:31	EEH
Carbon Tetrachloride	ND	1.0	µg/L	1		SW-846 8260C	1/23/14	1/23/14 16:31	EEH
Chlorobenzene	ND	1.0	µg/L	1		SW-846 8260C	1/23/14	1/23/14 16:31	EEH
Chlorodibromomethane	ND	0.50	µg/L	1		SW-846 8260C	1/23/14	1/23/14 16:31	EEH
Chloroethane	ND	2.0	µg/L	1		SW-846 8260C	1/23/14	1/23/14 16:31	EEH
Chloroform	ND	5.0	µg/L	1	RL-07	SW-846 8260C	1/23/14	1/23/14 16:31	EEH
Chloromethane	ND	2.0	µg/L	1		SW-846 8260C	1/23/14	1/23/14 16:31	EEH
2-Chlorotoluene	ND	1.0	µg/L	1		SW-846 8260C	1/23/14	1/23/14 16:31	EEH
4-Chlorotoluene	ND	1.0	µg/L	1		SW-846 8260C	1/23/14	1/23/14 16:31	EEH
1,2-Dibromo-3-chloropropane (DBCP)	ND	2.0	µg/L	1		SW-846 8260C	1/23/14	1/23/14 16:31	EEH
1,2-Dibromoethane (EDB)	ND	0.50	µg/L	1		SW-846 8260C	1/23/14	1/23/14 16:31	EEH
Dibromomethane	ND	1.0	µg/L	1		SW-846 8260C	1/23/14	1/23/14 16:31	EEH
1,2-Dichlorobenzene	ND	1.0	µg/L	1		SW-846 8260C	1/23/14	1/23/14 16:31	EEH
1,3-Dichlorobenzene	ND	1.0	µg/L	1		SW-846 8260C	1/23/14	1/23/14 16:31	EEH
1,4-Dichlorobenzene	ND	1.0	µg/L	1		SW-846 8260C	1/23/14	1/23/14 16:31	EEH
Dichlorodifluoromethane (Freon 12)	ND	2.0	µg/L	1		SW-846 8260C	1/23/14	1/23/14 16:31	EEH
1,1-Dichloroethane	ND	1.0	µg/L	1		SW-846 8260C	1/23/14	1/23/14 16:31	EEH
1,2-Dichloroethane	ND	5.0	µg/L	1	RL-07	SW-846 8260C	1/23/14	1/23/14 16:31	EEH
1,1-Dichloroethylene	2.5	1.0	µg/L	1		SW-846 8260C	1/23/14	1/23/14 16:31	EEH
cis-1,2-Dichloroethylene	ND	1.0	µg/L	1		SW-846 8260C	1/23/14	1/23/14 16:31	EEH
trans-1,2-Dichloroethylene	ND	1.0	µg/L	1		SW-846 8260C	1/23/14	1/23/14 16:31	EEH
1,2-Dichloropropane	ND	1.0	µg/L	1		SW-846 8260C	1/23/14	1/23/14 16:31	EEH
1,3-Dichloropropane	ND	0.50	µg/L	1		SW-846 8260C	1/23/14	1/23/14 16:31	EEH
2,2-Dichloropropane	ND	1.0	µg/L	1		SW-846 8260C	1/23/14	1/23/14 16:31	EEH
1,1-Dichloropropene	ND	0.50	µg/L	1		SW-846 8260C	1/23/14	1/23/14 16:31	EEH
cis-1,3-Dichloropropene	ND	0.40	µg/L	1		SW-846 8260C	1/23/14	1/23/14 16:31	EEH
trans-1,3-Dichloropropene	ND	0.40	µg/L	1		SW-846 8260C	1/23/14	1/23/14 16:31	EEH
Diethyl Ether	ND	2.0	µg/L	1		SW-846 8260C	1/23/14	1/23/14 16:31	EEH
Diisopropyl Ether (DIPE)	ND	0.50	µg/L	1		SW-846 8260C	1/23/14	1/23/14 16:31	EEH
1,4-Dioxane	ND	50	µg/L	1	V-16	SW-846 8260C	1/23/14	1/23/14 16:31	EEH
Ethylbenzene	ND	1.0	µg/L	1		SW-846 8260C	1/23/14	1/23/14 16:31	EEH

Project Location: 163 Glen St., Somerville, MA

Sample Description:

Work Order: 14A0607

Date Received: 1/21/2014

Field Sample #: Dup-1

Sampled: 1/21/2014 00:00

Sample ID: 14A0607-05

Sample Matrix: Ground Water

Volatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Hexachlorobutadiene	ND	0.50	µg/L	1		SW-846 8260C	1/23/14	1/23/14 16:31	EEH
2-Hexanone (MBK)	ND	10	µg/L	1		SW-846 8260C	1/23/14	1/23/14 16:31	EEH
Isopropylbenzene (Cumene)	ND	1.0	µg/L	1		SW-846 8260C	1/23/14	1/23/14 16:31	EEH
p-Isopropyltoluene (p-Cymene)	ND	1.0	µg/L	1		SW-846 8260C	1/23/14	1/23/14 16:31	EEH
Methyl tert-Butyl Ether (MTBE)	ND	1.0	µg/L	1		SW-846 8260C	1/23/14	1/23/14 16:31	EEH
Methylene Chloride	ND	5.0	µg/L	1	RL-07	SW-846 8260C	1/23/14	1/23/14 16:31	EEH
4-Methyl-2-pentanone (MIBK)	ND	10	µg/L	1		SW-846 8260C	1/23/14	1/23/14 16:31	EEH
Naphthalene	21	2.0	µg/L	1	L-04	SW-846 8260C	1/23/14	1/23/14 16:31	EEH
n-Propylbenzene	ND	1.0	µg/L	1		SW-846 8260C	1/23/14	1/23/14 16:31	EEH
Styrene	ND	1.0	µg/L	1		SW-846 8260C	1/23/14	1/23/14 16:31	EEH
1,1,1,2-Tetrachloroethane	ND	1.0	µg/L	1		SW-846 8260C	1/23/14	1/23/14 16:31	EEH
1,1,2,2-Tetrachloroethane	ND	0.50	µg/L	1		SW-846 8260C	1/23/14	1/23/14 16:31	EEH
Tetrachloroethylene	15	1.0	µg/L	1		SW-846 8260C	1/23/14	1/23/14 16:31	EEH
Tetrahydrofuran	ND	2.0	µg/L	1		SW-846 8260C	1/23/14	1/23/14 16:31	EEH
Toluene	ND	1.0	µg/L	1		SW-846 8260C	1/23/14	1/23/14 16:31	EEH
1,2,3-Trichlorobenzene	ND	2.0	µg/L	1		SW-846 8260C	1/23/14	1/23/14 16:31	EEH
1,2,4-Trichlorobenzene	ND	1.0	µg/L	1		SW-846 8260C	1/23/14	1/23/14 16:31	EEH
1,1,1-Trichloroethane	1.4	1.0	µg/L	1		SW-846 8260C	1/23/14	1/23/14 16:31	EEH
1,1,2-Trichloroethane	ND	1.0	µg/L	1		SW-846 8260C	1/23/14	1/23/14 16:31	EEH
Trichloroethylene	1.0	1.0	µg/L	1		SW-846 8260C	1/23/14	1/23/14 16:31	EEH
Trichlorofluoromethane (Freon 11)	ND	2.0	µg/L	1		SW-846 8260C	1/23/14	1/23/14 16:31	EEH
1,2,3-Trichloropropane	ND	2.0	µg/L	1		SW-846 8260C	1/23/14	1/23/14 16:31	EEH
1,2,4-Trimethylbenzene	ND	1.0	µg/L	1		SW-846 8260C	1/23/14	1/23/14 16:31	EEH
1,3,5-Trimethylbenzene	ND	1.0	µg/L	1		SW-846 8260C	1/23/14	1/23/14 16:31	EEH
Vinyl Chloride	ND	2.0	µg/L	1	L-04	SW-846 8260C	1/23/14	1/23/14 16:31	EEH
m+p Xylene	ND	2.0	µg/L	1		SW-846 8260C	1/23/14	1/23/14 16:31	EEH
o-Xylene	ND	1.0	µg/L	1		SW-846 8260C	1/23/14	1/23/14 16:31	EEH

Surrogates	% Recovery	Recovery Limits	Flag/Qual
1,2-Dichloroethane-d4	90.8	70-130	
Toluene-d8	101	70-130	
4-Bromofluorobenzene	99.3	70-130	

Project Location: 163 Glen St., Somerville, MA

Sample Description:

Work Order: 14A0607

Date Received: 1/21/2014

Field Sample #: Dup-1

Sampled: 1/21/2014 00:00

Sample ID: 14A0607-05

Sample Matrix: Ground Water

Semivolatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Acenaphthene	ND	5.0	µg/L	1		SW-846 8270D	1/21/14	1/24/14 19:26	CMR
Acenaphthylene	ND	5.0	µg/L	1		SW-846 8270D	1/21/14	1/24/14 19:26	CMR
Anthracene	ND	5.0	µg/L	1		SW-846 8270D	1/21/14	1/24/14 19:26	CMR
Benzo(a)anthracene	ND	5.0	µg/L	1		SW-846 8270D	1/21/14	1/24/14 19:26	CMR
Benzo(a)pyrene	ND	5.0	µg/L	1		SW-846 8270D	1/21/14	1/24/14 19:26	CMR
Benzo(b)fluoranthene	ND	5.0	µg/L	1		SW-846 8270D	1/21/14	1/24/14 19:26	CMR
Benzo(g,h,i)perylene	ND	5.0	µg/L	1		SW-846 8270D	1/21/14	1/24/14 19:26	CMR
Benzo(k)fluoranthene	ND	5.0	µg/L	1		SW-846 8270D	1/21/14	1/24/14 19:26	CMR
Chrysene	ND	5.0	µg/L	1		SW-846 8270D	1/21/14	1/24/14 19:26	CMR
Dibenz(a,h)anthracene	ND	5.0	µg/L	1		SW-846 8270D	1/21/14	1/24/14 19:26	CMR
Fluoranthene	ND	5.0	µg/L	1		SW-846 8270D	1/21/14	1/24/14 19:26	CMR
Fluorene	ND	5.0	µg/L	1	V-20	SW-846 8270D	1/21/14	1/24/14 19:26	CMR
Indeno(1,2,3-cd)pyrene	ND	5.0	µg/L	1		SW-846 8270D	1/21/14	1/24/14 19:26	CMR
2-Methylnaphthalene	ND	5.0	µg/L	1		SW-846 8270D	1/21/14	1/24/14 19:26	CMR
Naphthalene	5.9	5.0	µg/L	1		SW-846 8270D	1/21/14	1/24/14 19:26	CMR
Phenanthrene	ND	5.0	µg/L	1		SW-846 8270D	1/21/14	1/24/14 19:26	CMR
Pyrene	ND	5.0	µg/L	1		SW-846 8270D	1/21/14	1/24/14 19:26	CMR
Surrogates	% Recovery		Recovery Limits		Flag/Qual				
Nitrobenzene-d5	41.1		30-130				1/24/14 19:26		
2-Fluorobiphenyl	38.8		30-130				1/24/14 19:26		
p-Terphenyl-d14	92.3		30-130				1/24/14 19:26		

Project Location: 163 Glen St., Somerville, MA

Sample Description:

Work Order: 14A0607

Date Received: 1/21/2014

Field Sample #: Dup-1

Sampled: 1/21/2014 00:00

Sample ID: 14A0607-05

Sample Matrix: Ground Water

Petroleum Hydrocarbons Analyses - EPH

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
C9-C18 Aliphatics	ND	100	µg/L	1		MADEP-EPH-04-1.1	1/25/14	1/27/14 17:11	SCS
C19-C36 Aliphatics	ND	100	µg/L	1		MADEP-EPH-04-1.1	1/25/14	1/27/14 17:11	SCS
Unadjusted C11-C22 Aromatics	210	100	µg/L	1		MADEP-EPH-04-1.1	1/25/14	1/27/14 17:11	SCS
C11-C22 Aromatics	170	100	µg/L	1		MADEP-EPH-04-1.1	1/25/14	1/27/14 17:11	SCS
Surrogates	% Recovery	Recovery Limits	Flag/Qual						
Chlorooctadecane (COD)	59.1	40-140							
o-Terphenyl (OTP)	78.5	40-140							
2-Bromonaphthalene	84.0	40-140							
2-Fluorobiphenyl	89.2	40-140							

Project Location: 163 Glen St., Somerville, MA

Sample Description:

Work Order: 14A0607

Date Received: 1/21/2014

Field Sample #: Dup-1

Sampled: 1/21/2014 00:00

Sample ID: 14A0607-05

Sample Matrix: Ground Water

Metals Analyses (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Antimony	ND	1.0	µg/L	1		SW-846 6020A	1/21/14	1/22/14 13:00	KSH
Arsenic	1.1	0.40	µg/L	1		SW-846 6020A	1/21/14	1/22/14 13:00	KSH
Barium	93	10	µg/L	1		SW-846 6020A	1/21/14	1/22/14 13:00	KSH
Beryllium	ND	0.40	µg/L	1		SW-846 6020A	1/21/14	1/22/14 13:00	KSH
Cadmium	ND	0.50	µg/L	1		SW-846 6020A	1/21/14	1/22/14 13:00	KSH
Chromium	3.9	1.0	µg/L	1		SW-846 6020A	1/21/14	1/22/14 13:00	KSH
Lead	8.5	1.0	µg/L	1		SW-846 6020A	1/21/14	1/22/14 13:00	KSH
Mercury	ND	0.00010	mg/L	1		SW-846 7470A	1/22/14	1/22/14 13:09	SAJ
Nickel	11	5.0	µg/L	1		SW-846 6020A	1/21/14	1/22/14 13:00	KSH
Selenium	ND	5.0	µg/L	1		SW-846 6020A	1/21/14	1/22/14 13:00	KSH
Silver	ND	0.50	µg/L	1		SW-846 6020A	1/21/14	1/22/14 13:00	KSH
Thallium	ND	0.20	µg/L	1		SW-846 6020A	1/21/14	1/22/14 13:00	KSH
Vanadium	ND	5.0	µg/L	1		SW-846 6020A	1/21/14	1/22/14 13:00	KSH
Zinc	15	10	µg/L	1		SW-846 6020A	1/21/14	1/22/14 13:00	KSH

Project Location: 163 Glen St., Somerville, MA

Sample Description:

Work Order: 14A0607

Date Received: 1/21/2014

Field Sample #: Trip Blank

Sampled: 1/21/2014 00:00

Sample ID: 14A0607-06

Sample Matrix: Trip Blank Water

Volatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Acetone	ND	10	µg/L	1		SW-846 8260C	1/23/14	1/23/14 12:32	EEH
tert-Amyl Methyl Ether (TAME)	ND	0.50	µg/L	1		SW-846 8260C	1/23/14	1/23/14 12:32	EEH
Benzene	ND	1.0	µg/L	1		SW-846 8260C	1/23/14	1/23/14 12:32	EEH
Bromobenzene	ND	1.0	µg/L	1		SW-846 8260C	1/23/14	1/23/14 12:32	EEH
Bromochloromethane	ND	1.0	µg/L	1		SW-846 8260C	1/23/14	1/23/14 12:32	EEH
Bromodichloromethane	ND	1.0	µg/L	1		SW-846 8260C	1/23/14	1/23/14 12:32	EEH
Bromoform	ND	1.0	µg/L	1		SW-846 8260C	1/23/14	1/23/14 12:32	EEH
Bromomethane	ND	2.0	µg/L	1		SW-846 8260C	1/23/14	1/23/14 12:32	EEH
2-Butanone (MEK)	ND	10	µg/L	1		SW-846 8260C	1/23/14	1/23/14 12:32	EEH
n-Butylbenzene	ND	1.0	µg/L	1		SW-846 8260C	1/23/14	1/23/14 12:32	EEH
sec-Butylbenzene	ND	1.0	µg/L	1		SW-846 8260C	1/23/14	1/23/14 12:32	EEH
tert-Butylbenzene	ND	1.0	µg/L	1		SW-846 8260C	1/23/14	1/23/14 12:32	EEH
tert-Butyl Ethyl Ether (TBEE)	ND	0.50	µg/L	1		SW-846 8260C	1/23/14	1/23/14 12:32	EEH
Carbon Disulfide	ND	5.0	µg/L	1	RL-07	SW-846 8260C	1/23/14	1/23/14 12:32	EEH
Carbon Tetrachloride	ND	1.0	µg/L	1		SW-846 8260C	1/23/14	1/23/14 12:32	EEH
Chlorobenzene	ND	1.0	µg/L	1		SW-846 8260C	1/23/14	1/23/14 12:32	EEH
Chlorodibromomethane	ND	0.50	µg/L	1		SW-846 8260C	1/23/14	1/23/14 12:32	EEH
Chloroethane	ND	2.0	µg/L	1		SW-846 8260C	1/23/14	1/23/14 12:32	EEH
Chloroform	ND	5.0	µg/L	1	RL-07	SW-846 8260C	1/23/14	1/23/14 12:32	EEH
Chloromethane	ND	2.0	µg/L	1		SW-846 8260C	1/23/14	1/23/14 12:32	EEH
2-Chlorotoluene	ND	1.0	µg/L	1		SW-846 8260C	1/23/14	1/23/14 12:32	EEH
4-Chlorotoluene	ND	1.0	µg/L	1		SW-846 8260C	1/23/14	1/23/14 12:32	EEH
1,2-Dibromo-3-chloropropane (DBCP)	ND	2.0	µg/L	1		SW-846 8260C	1/23/14	1/23/14 12:32	EEH
1,2-Dibromoethane (EDB)	ND	0.50	µg/L	1		SW-846 8260C	1/23/14	1/23/14 12:32	EEH
Dibromomethane	ND	1.0	µg/L	1		SW-846 8260C	1/23/14	1/23/14 12:32	EEH
1,2-Dichlorobenzene	ND	1.0	µg/L	1		SW-846 8260C	1/23/14	1/23/14 12:32	EEH
1,3-Dichlorobenzene	ND	1.0	µg/L	1		SW-846 8260C	1/23/14	1/23/14 12:32	EEH
1,4-Dichlorobenzene	ND	1.0	µg/L	1		SW-846 8260C	1/23/14	1/23/14 12:32	EEH
Dichlorodifluoromethane (Freon 12)	ND	2.0	µg/L	1		SW-846 8260C	1/23/14	1/23/14 12:32	EEH
1,1-Dichloroethane	ND	1.0	µg/L	1		SW-846 8260C	1/23/14	1/23/14 12:32	EEH
1,2-Dichloroethane	ND	5.0	µg/L	1	RL-07	SW-846 8260C	1/23/14	1/23/14 12:32	EEH
1,1-Dichloroethylene	ND	1.0	µg/L	1		SW-846 8260C	1/23/14	1/23/14 12:32	EEH
cis-1,2-Dichloroethylene	ND	1.0	µg/L	1		SW-846 8260C	1/23/14	1/23/14 12:32	EEH
trans-1,2-Dichloroethylene	ND	1.0	µg/L	1		SW-846 8260C	1/23/14	1/23/14 12:32	EEH
1,2-Dichloropropane	ND	1.0	µg/L	1		SW-846 8260C	1/23/14	1/23/14 12:32	EEH
1,3-Dichloropropane	ND	0.50	µg/L	1		SW-846 8260C	1/23/14	1/23/14 12:32	EEH
2,2-Dichloropropane	ND	1.0	µg/L	1		SW-846 8260C	1/23/14	1/23/14 12:32	EEH
1,1-Dichloropropene	ND	0.50	µg/L	1		SW-846 8260C	1/23/14	1/23/14 12:32	EEH
cis-1,3-Dichloropropene	ND	0.40	µg/L	1		SW-846 8260C	1/23/14	1/23/14 12:32	EEH
trans-1,3-Dichloropropene	ND	0.40	µg/L	1		SW-846 8260C	1/23/14	1/23/14 12:32	EEH
Diethyl Ether	ND	2.0	µg/L	1		SW-846 8260C	1/23/14	1/23/14 12:32	EEH
Diisopropyl Ether (DIPE)	ND	0.50	µg/L	1		SW-846 8260C	1/23/14	1/23/14 12:32	EEH
1,4-Dioxane	ND	50	µg/L	1	V-16	SW-846 8260C	1/23/14	1/23/14 12:32	EEH
Ethylbenzene	ND	1.0	µg/L	1		SW-846 8260C	1/23/14	1/23/14 12:32	EEH

Project Location: 163 Glen St., Somerville, MA

Sample Description:

Work Order: 14A0607

Date Received: 1/21/2014

Field Sample #: Trip Blank

Sampled: 1/21/2014 00:00

Sample ID: 14A0607-06

Sample Matrix: Trip Blank Water

Volatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Hexachlorobutadiene	ND	0.50	µg/L	1		SW-846 8260C	1/23/14	1/23/14 12:32	EEH
2-Hexanone (MBK)	ND	10	µg/L	1		SW-846 8260C	1/23/14	1/23/14 12:32	EEH
Isopropylbenzene (Cumene)	ND	1.0	µg/L	1		SW-846 8260C	1/23/14	1/23/14 12:32	EEH
p-Isopropyltoluene (p-Cymene)	ND	1.0	µg/L	1		SW-846 8260C	1/23/14	1/23/14 12:32	EEH
Methyl tert-Butyl Ether (MTBE)	ND	1.0	µg/L	1		SW-846 8260C	1/23/14	1/23/14 12:32	EEH
Methylene Chloride	ND	5.0	µg/L	1	RL-07	SW-846 8260C	1/23/14	1/23/14 12:32	EEH
4-Methyl-2-pentanone (MIBK)	ND	10	µg/L	1		SW-846 8260C	1/23/14	1/23/14 12:32	EEH
Naphthalene	ND	2.0	µg/L	1	L-04	SW-846 8260C	1/23/14	1/23/14 12:32	EEH
n-Propylbenzene	ND	1.0	µg/L	1		SW-846 8260C	1/23/14	1/23/14 12:32	EEH
Styrene	ND	1.0	µg/L	1		SW-846 8260C	1/23/14	1/23/14 12:32	EEH
1,1,1,2-Tetrachloroethane	ND	1.0	µg/L	1		SW-846 8260C	1/23/14	1/23/14 12:32	EEH
1,1,2,2-Tetrachloroethane	ND	0.50	µg/L	1		SW-846 8260C	1/23/14	1/23/14 12:32	EEH
Tetrachloroethylene	ND	1.0	µg/L	1		SW-846 8260C	1/23/14	1/23/14 12:32	EEH
Tetrahydrofuran	ND	2.0	µg/L	1		SW-846 8260C	1/23/14	1/23/14 12:32	EEH
Toluene	ND	1.0	µg/L	1		SW-846 8260C	1/23/14	1/23/14 12:32	EEH
1,2,3-Trichlorobenzene	ND	2.0	µg/L	1		SW-846 8260C	1/23/14	1/23/14 12:32	EEH
1,2,4-Trichlorobenzene	ND	1.0	µg/L	1		SW-846 8260C	1/23/14	1/23/14 12:32	EEH
1,1,1-Trichloroethane	ND	1.0	µg/L	1		SW-846 8260C	1/23/14	1/23/14 12:32	EEH
1,1,2-Trichloroethane	ND	1.0	µg/L	1		SW-846 8260C	1/23/14	1/23/14 12:32	EEH
Trichloroethylene	ND	1.0	µg/L	1		SW-846 8260C	1/23/14	1/23/14 12:32	EEH
Trichlorofluoromethane (Freon 11)	ND	2.0	µg/L	1		SW-846 8260C	1/23/14	1/23/14 12:32	EEH
1,2,3-Trichloropropane	ND	2.0	µg/L	1		SW-846 8260C	1/23/14	1/23/14 12:32	EEH
1,2,4-Trimethylbenzene	ND	1.0	µg/L	1		SW-846 8260C	1/23/14	1/23/14 12:32	EEH
1,3,5-Trimethylbenzene	ND	1.0	µg/L	1		SW-846 8260C	1/23/14	1/23/14 12:32	EEH
Vinyl Chloride	ND	2.0	µg/L	1	L-04	SW-846 8260C	1/23/14	1/23/14 12:32	EEH
m+p Xylene	ND	2.0	µg/L	1		SW-846 8260C	1/23/14	1/23/14 12:32	EEH
o-Xylene	ND	1.0	µg/L	1		SW-846 8260C	1/23/14	1/23/14 12:32	EEH

Surrogates	% Recovery	Recovery Limits	Flag/Qual
1,2-Dichloroethane-d4	87.4	70-130	
Toluene-d8	104	70-130	
4-Bromofluorobenzene	98.3	70-130	

Sample Extraction Data

Prep Method: SW-846 3510C-MADEP-EPH-04-1.1

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date
14A0607-01 [TRC-1]	B089345	1000	2.00	01/25/14
14A0607-02 [TRC-2]	B089345	1000	2.00	01/25/14
14A0607-03 [TRC-3]	B089345	1000	2.00	01/25/14
14A0607-04 [TRC-4]	B089345	1000	2.00	01/25/14
14A0607-05 [Dup-1]	B089345	1000	2.00	01/25/14

Prep Method: SW-846 3005A-SW-846 6020A

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date
14A0607-01 [TRC-1]	B089111	50.0	50.0	01/21/14
14A0607-02 [TRC-2]	B089111	50.0	50.0	01/21/14
14A0607-03 [TRC-3]	B089111	50.0	50.0	01/21/14
14A0607-04 [TRC-4]	B089111	50.0	50.0	01/21/14
14A0607-05 [Dup-1]	B089111	50.0	50.0	01/21/14

Prep Method: SW-846 7470A Prep-SW-846 7470A

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date
14A0607-01 [TRC-1]	B089131	6.00	6.00	01/22/14
14A0607-02 [TRC-2]	B089131	6.00	6.00	01/22/14
14A0607-03 [TRC-3]	B089131	6.00	6.00	01/22/14
14A0607-04 [TRC-4]	B089131	6.00	6.00	01/22/14
14A0607-05 [Dup-1]	B089131	6.00	6.00	01/22/14

Prep Method: SW-846 5030B-SW-846 8260C

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date
14A0607-01 [TRC-1]	B089231	5	5.00	01/23/14
14A0607-02 [TRC-2]	B089231	5	5.00	01/23/14
14A0607-03 [TRC-3]	B089231	5	5.00	01/23/14
14A0607-04 [TRC-4]	B089231	5	5.00	01/23/14
14A0607-05 [Dup-1]	B089231	5	5.00	01/23/14
14A0607-06 [Trip Blank]	B089231	5	5.00	01/23/14

Prep Method: SW-846 3510C-SW-846 8270D

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date
14A0607-01 [TRC-1]	B089100	1000	1.00	01/21/14
14A0607-02 [TRC-2]	B089100	1000	1.00	01/21/14
14A0607-03 [TRC-3]	B089100	1000	1.00	01/21/14
14A0607-04 [TRC-4]	B089100	1000	1.00	01/21/14
14A0607-05 [Dup-1]	B089100	1000	1.00	01/21/14

QUALITY CONTROL
Volatile Organic Compounds by GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch B089231 - SW-846 5030B
Blank (B089231-BLK1)

Prepared & Analyzed: 01/23/14

Acetone	ND	10	µg/L							
tert-Amyl Methyl Ether (TAME)	ND	0.50	µg/L							
Benzene	ND	1.0	µg/L							
Bromobenzene	ND	1.0	µg/L							
Bromochloromethane	ND	1.0	µg/L							
Bromodichloromethane	ND	1.0	µg/L							
Bromoform	ND	1.0	µg/L							
Bromomethane	ND	2.0	µg/L							
2-Butanone (MEK)	ND	10	µg/L							
n-Butylbenzene	ND	1.0	µg/L							
sec-Butylbenzene	ND	1.0	µg/L							
tert-Butylbenzene	ND	1.0	µg/L							
tert-Butyl Ethyl Ether (TBEE)	ND	0.50	µg/L							
Carbon Disulfide	ND	5.0	µg/L							
Carbon Tetrachloride	ND	1.0	µg/L							
Chlorobenzene	ND	1.0	µg/L							
Chlorodibromomethane	ND	0.50	µg/L							
Chloroethane	ND	2.0	µg/L							
Chloroform	ND	2.0	µg/L							
Chloromethane	ND	2.0	µg/L							
2-Chlorotoluene	ND	1.0	µg/L							
4-Chlorotoluene	ND	1.0	µg/L							
1,2-Dibromo-3-chloropropane (DBCP)	ND	2.0	µg/L							
1,2-Dibromoethane (EDB)	ND	0.50	µg/L							
Dibromomethane	ND	1.0	µg/L							
1,2-Dichlorobenzene	ND	1.0	µg/L							
1,3-Dichlorobenzene	ND	1.0	µg/L							
1,4-Dichlorobenzene	ND	1.0	µg/L							
Dichlorodifluoromethane (Freon 12)	ND	2.0	µg/L							
1,1-Dichloroethane	ND	1.0	µg/L							
1,2-Dichloroethane	ND	1.0	µg/L							
1,1-Dichloroethylene	ND	1.0	µg/L							
cis-1,2-Dichloroethylene	ND	1.0	µg/L							
trans-1,2-Dichloroethylene	ND	1.0	µg/L							
1,2-Dichloropropane	ND	1.0	µg/L							
1,3-Dichloropropane	ND	0.50	µg/L							
2,2-Dichloropropane	ND	1.0	µg/L							
1,1-Dichloropropene	ND	0.50	µg/L							
cis-1,3-Dichloropropene	ND	0.40	µg/L							
trans-1,3-Dichloropropene	ND	0.40	µg/L							
Diethyl Ether	ND	2.0	µg/L							
Diisopropyl Ether (DIPE)	ND	0.50	µg/L							
1,4-Dioxane	ND	50	µg/L							V-16
Ethylbenzene	ND	1.0	µg/L							
Hexachlorobutadiene	ND	0.50	µg/L							
2-Hexanone (MBK)	ND	10	µg/L							
Isopropylbenzene (Cumene)	ND	1.0	µg/L							
p-Isopropyltoluene (p-Cymene)	ND	1.0	µg/L							
Methyl tert-Butyl Ether (MTBE)	ND	1.0	µg/L							
Methylene Chloride	ND	5.0	µg/L							
4-Methyl-2-pentanone (MIBK)	ND	10	µg/L							
Naphthalene	ND	2.0	µg/L							L-04

QUALITY CONTROL
Volatile Organic Compounds by GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B089231 - SW-846 5030B										
Blank (B089231-BLK1)				Prepared & Analyzed: 01/23/14						
n-Propylbenzene	ND	1.0	µg/L							
Styrene	ND	1.0	µg/L							
1,1,1,2-Tetrachloroethane	ND	1.0	µg/L							
1,1,2,2-Tetrachloroethane	ND	0.50	µg/L							
Tetrachloroethylene	ND	1.0	µg/L							
Tetrahydrofuran	ND	2.0	µg/L							
Toluene	ND	1.0	µg/L							
1,2,3-Trichlorobenzene	ND	2.0	µg/L							
1,2,4-Trichlorobenzene	ND	1.0	µg/L							
1,1,1-Trichloroethane	ND	1.0	µg/L							
1,1,2-Trichloroethane	ND	1.0	µg/L							
Trichloroethylene	ND	1.0	µg/L							
Trichlorofluoromethane (Freon 11)	ND	2.0	µg/L							
1,2,3-Trichloropropane	ND	2.0	µg/L							
1,2,4-Trimethylbenzene	ND	1.0	µg/L							
1,3,5-Trimethylbenzene	ND	1.0	µg/L							
Vinyl Chloride	ND	2.0	µg/L							L-04
m+p Xylene	ND	2.0	µg/L							
o-Xylene	ND	1.0	µg/L							
Surrogate: 1,2-Dichloroethane-d4	21.6		µg/L	25.0		86.3	70-130			
Surrogate: Toluene-d8	26.3		µg/L	25.0		105	70-130			
Surrogate: 4-Bromofluorobenzene	24.1		µg/L	25.0		96.4	70-130			
LCS (B089231-BS1)				Prepared & Analyzed: 01/23/14						
Acetone	80.8	10	µg/L	100		80.8	40-160			†
tert-Amyl Methyl Ether (TAME)	8.00	0.50	µg/L	10.0		80.0	70-130			
Benzene	9.60	1.0	µg/L	10.0		96.0	70-130			
Bromobenzene	9.83	1.0	µg/L	10.0		98.3	70-130			
Bromochloromethane	10.1	1.0	µg/L	10.0		101	70-130			
Bromodichloromethane	10.4	1.0	µg/L	10.0		104	70-130			
Bromoform	9.67	1.0	µg/L	10.0		96.7	70-130			
Bromomethane	9.44	2.0	µg/L	10.0		94.4	40-160		V-20	†
2-Butanone (MEK)	91.1	10	µg/L	100		91.1	40-160		V-20	†
n-Butylbenzene	10.6	1.0	µg/L	10.0		106	70-130			
sec-Butylbenzene	10.1	1.0	µg/L	10.0		101	70-130			
tert-Butylbenzene	9.82	1.0	µg/L	10.0		98.2	70-130			
tert-Butyl Ethyl Ether (TBEE)	8.30	0.50	µg/L	10.0		83.0	70-130			
Carbon Disulfide	9.96	5.0	µg/L	10.0		99.6	70-130			
Carbon Tetrachloride	10.5	1.0	µg/L	10.0		105	70-130			
Chlorobenzene	10.1	1.0	µg/L	10.0		101	70-130			
Chlorodibromomethane	10.9	0.50	µg/L	10.0		109	70-130			
Chloroethane	10.6	2.0	µg/L	10.0		106	70-130			
Chloroform	10.4	2.0	µg/L	10.0		104	70-130			
Chloromethane	9.70	2.0	µg/L	10.0		97.0	40-160		V-20	†
2-Chlorotoluene	9.90	1.0	µg/L	10.0		99.0	70-130			
4-Chlorotoluene	10.1	1.0	µg/L	10.0		101	70-130			
1,2-Dibromo-3-chloropropane (DBCP)	8.20	2.0	µg/L	10.0		82.0	70-130			
1,2-Dibromoethane (EDB)	10.4	0.50	µg/L	10.0		104	70-130			
Dibromomethane	10.1	1.0	µg/L	10.0		101	70-130			
1,2-Dichlorobenzene	9.68	1.0	µg/L	10.0		96.8	70-130			
1,3-Dichlorobenzene	9.78	1.0	µg/L	10.0		97.8	70-130			
1,4-Dichlorobenzene	9.77	1.0	µg/L	10.0		97.7	70-130			

QUALITY CONTROL

Volatile Organic Compounds by GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B089231 - SW-846 5030B										
LCS (B089231-BS1)				Prepared & Analyzed: 01/23/14						
Dichlorodifluoromethane (Freon 12)	4.54	2.0	µg/L	10.0		45.4	40-160			L-14 †
1,1-Dichloroethane	10.8	1.0	µg/L	10.0		108	70-130			
1,2-Dichloroethane	9.57	1.0	µg/L	10.0		95.7	70-130			
1,1-Dichloroethylene	9.77	1.0	µg/L	10.0		97.7	70-130			
cis-1,2-Dichloroethylene	10.6	1.0	µg/L	10.0		106	70-130			
trans-1,2-Dichloroethylene	10.4	1.0	µg/L	10.0		104	70-130			
1,2-Dichloropropane	9.93	1.0	µg/L	10.0		99.3	70-130			
1,3-Dichloropropane	10.4	0.50	µg/L	10.0		104	70-130			
2,2-Dichloropropane	10.5	1.0	µg/L	10.0		105	70-130			
1,1-Dichloropropene	10.8	0.50	µg/L	10.0		108	70-130			
cis-1,3-Dichloropropene	10.0	0.40	µg/L	10.0		100	70-130			
trans-1,3-Dichloropropene	10.6	0.40	µg/L	10.0		106	70-130			
Diethyl Ether	8.17	2.0	µg/L	10.0		81.7	70-130			
Diisopropyl Ether (DIPE)	10.4	0.50	µg/L	10.0		104	70-130			
1,4-Dioxane	76.5	50	µg/L	100		76.5	40-160			V-16 †
Ethylbenzene	10.0	1.0	µg/L	10.0		100	70-130			
Hexachlorobutadiene	9.66	0.50	µg/L	10.0		96.6	70-130			
2-Hexanone (MBK)	84.2	10	µg/L	100		84.2	40-160			†
Isopropylbenzene (Cumene)	10.2	1.0	µg/L	10.0		102	70-130			
p-Isopropyltoluene (p-Cymene)	10.1	1.0	µg/L	10.0		101	70-130			
Methyl tert-Butyl Ether (MTBE)	9.29	1.0	µg/L	10.0		92.9	70-130			
Methylene Chloride	15.9	5.0	µg/L	10.0		159 *	70-130			L-02, V-20
4-Methyl-2-pentanone (MIBK)	85.8	10	µg/L	100		85.8	40-160			†
Naphthalene	6.50	2.0	µg/L	10.0		65.0 *	70-130			L-04
n-Propylbenzene	10.4	1.0	µg/L	10.0		104	70-130			
Styrene	10.3	1.0	µg/L	10.0		103	70-130			
1,1,1,2-Tetrachloroethane	10.6	1.0	µg/L	10.0		106	70-130			
1,1,2,2-Tetrachloroethane	9.51	0.50	µg/L	10.0		95.1	70-130			
Tetrachloroethylene	10.8	1.0	µg/L	10.0		108	70-130			
Tetrahydrofuran	10.0	2.0	µg/L	10.0		100	70-130			
Toluene	9.78	1.0	µg/L	10.0		97.8	70-130			
1,2,3-Trichlorobenzene	6.40	2.0	µg/L	10.0		64.0 *	70-130			L-07
1,2,4-Trichlorobenzene	8.13	1.0	µg/L	10.0		81.3	70-130			
1,1,1-Trichloroethane	10.3	1.0	µg/L	10.0		103	70-130			
1,1,2-Trichloroethane	9.97	1.0	µg/L	10.0		99.7	70-130			
Trichloroethylene	9.74	1.0	µg/L	10.0		97.4	70-130			
Trichlorofluoromethane (Freon 11)	9.57	2.0	µg/L	10.0		95.7	70-130			
1,2,3-Trichloropropane	9.42	2.0	µg/L	10.0		94.2	70-130			
1,2,4-Trimethylbenzene	9.77	1.0	µg/L	10.0		97.7	70-130			
1,3,5-Trimethylbenzene	9.91	1.0	µg/L	10.0		99.1	70-130			
Vinyl Chloride	6.74	2.0	µg/L	10.0		67.4 *	70-130			L-04
m+p Xylene	19.7	2.0	µg/L	20.0		98.4	70-130			
o-Xylene	9.85	1.0	µg/L	10.0		98.5	70-130			
Surrogate: 1,2-Dichloroethane-d4	23.3		µg/L	25.0		93.4	70-130			
Surrogate: Toluene-d8	25.9		µg/L	25.0		104	70-130			
Surrogate: 4-Bromofluorobenzene	24.8		µg/L	25.0		99.2	70-130			

QUALITY CONTROL
Volatile Organic Compounds by GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B089231 - SW-846 5030B										
LCS Dup (B089231-BS1)				Prepared & Analyzed: 01/23/14						
Acetone	80.5	10	µg/L	100		80.5	40-160	0.372	20	†
tert-Amyl Methyl Ether (TAME)	8.50	0.50	µg/L	10.0		85.0	70-130	6.06	20	
Benzene	9.36	1.0	µg/L	10.0		93.6	70-130	2.53	20	
Bromobenzene	9.87	1.0	µg/L	10.0		98.7	70-130	0.406	20	
Bromochloromethane	10.0	1.0	µg/L	10.0		100	70-130	0.398	20	
Bromodichloromethane	10.2	1.0	µg/L	10.0		102	70-130	2.91	20	
Bromoform	10.8	1.0	µg/L	10.0		108	70-130	10.7	20	
Bromomethane	9.64	2.0	µg/L	10.0		96.4	40-160	2.10	20	V-20 †
2-Butanone (MEK)	91.7	10	µg/L	100		91.7	40-160	0.668	20	V-20 †
n-Butylbenzene	10.4	1.0	µg/L	10.0		104	70-130	1.81	20	
sec-Butylbenzene	9.95	1.0	µg/L	10.0		99.5	70-130	1.69	20	
tert-Butylbenzene	9.62	1.0	µg/L	10.0		96.2	70-130	2.06	20	
tert-Butyl Ethyl Ether (TBEE)	8.96	0.50	µg/L	10.0		89.6	70-130	7.65	20	
Carbon Disulfide	9.14	5.0	µg/L	10.0		91.4	70-130	8.59	20	
Carbon Tetrachloride	9.99	1.0	µg/L	10.0		99.9	70-130	4.88	20	
Chlorobenzene	9.88	1.0	µg/L	10.0		98.8	70-130	1.90	20	
Chlorodibromomethane	11.3	0.50	µg/L	10.0		113	70-130	3.43	20	
Chloroethane	10.0	2.0	µg/L	10.0		100	70-130	5.33	20	
Chloroform	9.81	2.0	µg/L	10.0		98.1	70-130	6.03	20	
Chloromethane	9.21	2.0	µg/L	10.0		92.1	40-160	5.18	20	V-20 †
2-Chlorotoluene	9.79	1.0	µg/L	10.0		97.9	70-130	1.12	20	
4-Chlorotoluene	9.70	1.0	µg/L	10.0		97.0	70-130	3.94	20	
1,2-Dibromo-3-chloropropane (DBCP)	8.16	2.0	µg/L	10.0		81.6	70-130	0.489	20	
1,2-Dibromoethane (EDB)	10.2	0.50	µg/L	10.0		102	70-130	1.94	20	
Dibromomethane	10.1	1.0	µg/L	10.0		101	70-130	0.197	20	
1,2-Dichlorobenzene	9.53	1.0	µg/L	10.0		95.3	70-130	1.56	20	
1,3-Dichlorobenzene	9.60	1.0	µg/L	10.0		96.0	70-130	1.86	20	
1,4-Dichlorobenzene	9.78	1.0	µg/L	10.0		97.8	70-130	0.102	20	
Dichlorodifluoromethane (Freon 12)	4.29	2.0	µg/L	10.0		42.9	40-160	5.66	20	L-14 †
1,1-Dichloroethane	10.2	1.0	µg/L	10.0		102	70-130	6.00	20	
1,2-Dichloroethane	9.85	1.0	µg/L	10.0		98.5	70-130	2.88	20	
1,1-Dichloroethylene	9.21	1.0	µg/L	10.0		92.1	70-130	5.90	20	
cis-1,2-Dichloroethylene	10.1	1.0	µg/L	10.0		101	70-130	4.35	20	
trans-1,2-Dichloroethylene	9.88	1.0	µg/L	10.0		98.8	70-130	5.32	20	
1,2-Dichloropropane	10.0	1.0	µg/L	10.0		100	70-130	0.802	20	
1,3-Dichloropropane	10.6	0.50	µg/L	10.0		106	70-130	1.81	20	
2,2-Dichloropropane	10.3	1.0	µg/L	10.0		103	70-130	2.30	20	
1,1-Dichloropropene	10.3	0.50	µg/L	10.0		103	70-130	4.45	20	
cis-1,3-Dichloropropene	10.0	0.40	µg/L	10.0		100	70-130	0.399	20	
trans-1,3-Dichloropropene	11.1	0.40	µg/L	10.0		111	70-130	5.35	20	
Diethyl Ether	8.12	2.0	µg/L	10.0		81.2	70-130	0.614	20	
Diisopropyl Ether (DIPE)	9.99	0.50	µg/L	10.0		99.9	70-130	4.12	20	
1,4-Dioxane	80.8	50	µg/L	100		80.8	40-160	5.42	20	V-16 †
Ethylbenzene	9.88	1.0	µg/L	10.0		98.8	70-130	1.31	20	
Hexachlorobutadiene	9.77	0.50	µg/L	10.0		97.7	70-130	1.13	20	
2-Hexanone (MBK)	89.5	10	µg/L	100		89.5	40-160	6.07	20	†
Isopropylbenzene (Cumene)	9.87	1.0	µg/L	10.0		98.7	70-130	3.39	20	
p-Isopropyltoluene (p-Cymene)	9.73	1.0	µg/L	10.0		97.3	70-130	3.34	20	
Methyl tert-Butyl Ether (MTBE)	9.54	1.0	µg/L	10.0		95.4	70-130	2.66	20	
Methylene Chloride	15.3	5.0	µg/L	10.0		153	* 70-130	3.84	20	L-02, V-20
4-Methyl-2-pentanone (MIBK)	93.5	10	µg/L	100		93.5	40-160	8.57	20	†
Naphthalene	6.96	2.0	µg/L	10.0		69.6	* 70-130	6.84	20	L-04

QUALITY CONTROL
Volatile Organic Compounds by GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B089231 - SW-846 5030B										
LCS Dup (B089231-BSD1)				Prepared & Analyzed: 01/23/14						
n-Propylbenzene	10.1	1.0	µg/L	10.0		101	70-130	2.84	20	
Styrene	10.0	1.0	µg/L	10.0		100	70-130	2.56	20	
1,1,1,2-Tetrachloroethane	10.4	1.0	µg/L	10.0		104	70-130	1.43	20	
1,1,2,2-Tetrachloroethane	10.2	0.50	µg/L	10.0		102	70-130	6.71	20	
Tetrachloroethylene	10.5	1.0	µg/L	10.0		105	70-130	2.53	20	
Tetrahydrofuran	10.1	2.0	µg/L	10.0		101	70-130	0.497	20	
Toluene	9.78	1.0	µg/L	10.0		97.8	70-130	0.00	20	
1,2,3-Trichlorobenzene	7.00	2.0	µg/L	10.0		70.0	70-130	8.96	20	
1,2,4-Trichlorobenzene	8.62	1.0	µg/L	10.0		86.2	70-130	5.85	20	
1,1,1-Trichloroethane	9.63	1.0	µg/L	10.0		96.3	70-130	7.01	20	
1,1,2-Trichloroethane	10.3	1.0	µg/L	10.0		103	70-130	2.96	20	
Trichloroethylene	9.59	1.0	µg/L	10.0		95.9	70-130	1.55	20	
Trichlorofluoromethane (Freon 11)	8.78	2.0	µg/L	10.0		87.8	70-130	8.61	20	
1,2,3-Trichloropropane	9.44	2.0	µg/L	10.0		94.4	70-130	0.212	20	
1,2,4-Trimethylbenzene	9.67	1.0	µg/L	10.0		96.7	70-130	1.03	20	
1,3,5-Trimethylbenzene	9.66	1.0	µg/L	10.0		96.6	70-130	2.55	20	
Vinyl Chloride	6.18	2.0	µg/L	10.0		61.8 *	70-130	8.67	20	L-04
m+p Xylene	19.3	2.0	µg/L	20.0		96.4	70-130	2.05	20	
o-Xylene	9.72	1.0	µg/L	10.0		97.2	70-130	1.33	20	
Surrogate: 1,2-Dichloroethane-d4	23.0		µg/L	25.0		91.9	70-130			
Surrogate: Toluene-d8	26.2		µg/L	25.0		105	70-130			
Surrogate: 4-Bromofluorobenzene	24.7		µg/L	25.0		98.7	70-130			

QUALITY CONTROL
Semivolatile Organic Compounds by GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B089100 - SW-846 3510C										
Blank (B089100-BLK1)										
Prepared: 01/21/14 Analyzed: 01/22/14										
Acenaphthene	ND	5.0	µg/L							
Acenaphthylene	ND	5.0	µg/L							
Anthracene	ND	5.0	µg/L							
Benzo(a)anthracene	ND	5.0	µg/L							
Benzo(a)pyrene	ND	5.0	µg/L							
Benzo(b)fluoranthene	ND	5.0	µg/L							
Benzo(g,h,i)perylene	ND	5.0	µg/L							
Benzo(k)fluoranthene	ND	5.0	µg/L							
Chrysene	ND	5.0	µg/L							
Dibenz(a,h)anthracene	ND	5.0	µg/L							
Fluoranthene	ND	5.0	µg/L							
Fluorene	ND	5.0	µg/L							
Indeno(1,2,3-cd)pyrene	ND	5.0	µg/L							
2-Methylnaphthalene	ND	5.0	µg/L							
Naphthalene	ND	5.0	µg/L							
Phenanthrene	ND	5.0	µg/L							
Pyrene	ND	5.0	µg/L							
Surrogate: Nitrobenzene-d5	58.2		µg/L	100		58.2	30-130			
Surrogate: 2-Fluorobiphenyl	65.0		µg/L	100		65.0	30-130			
Surrogate: p-Terphenyl-d14	84.8		µg/L	100		84.8	30-130			
LCS (B089100-BS1)										
Prepared: 01/21/14 Analyzed: 01/22/14										
Acenaphthene	40.3	5.0	µg/L	50.0		80.7	40-140			
Acenaphthylene	40.2	5.0	µg/L	50.0		80.5	40-140			
Anthracene	44.0	5.0	µg/L	50.0		88.0	40-140			
Benzo(a)anthracene	44.6	5.0	µg/L	50.0		89.1	40-140			
Benzo(a)pyrene	43.3	5.0	µg/L	50.0		86.7	40-140			
Benzo(b)fluoranthene	42.5	5.0	µg/L	50.0		84.9	40-140			
Benzo(g,h,i)perylene	46.1	5.0	µg/L	50.0		92.1	40-140			
Benzo(k)fluoranthene	43.4	5.0	µg/L	50.0		86.9	40-140			
Chrysene	42.2	5.0	µg/L	50.0		84.4	40-140			
Dibenz(a,h)anthracene	44.7	5.0	µg/L	50.0		89.3	40-140			
Fluoranthene	44.9	5.0	µg/L	50.0		89.8	40-140			
Fluorene	40.6	5.0	µg/L	50.0		81.2	40-140			
Indeno(1,2,3-cd)pyrene	46.7	5.0	µg/L	50.0		93.4	40-140			
2-Methylnaphthalene	37.6	5.0	µg/L	50.0		75.1	40-140			
Naphthalene	38.1	5.0	µg/L	50.0		76.2	40-140			
Phenanthrene	43.3	5.0	µg/L	50.0		86.7	40-140			
Pyrene	51.1	5.0	µg/L	50.0		102	40-140			
Surrogate: Nitrobenzene-d5	80.6		µg/L	100		80.6	30-130			
Surrogate: 2-Fluorobiphenyl	83.7		µg/L	100		83.7	30-130			
Surrogate: p-Terphenyl-d14	106		µg/L	100		106	30-130			

QUALITY CONTROL
Semivolatile Organic Compounds by GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B089100 - SW-846 3510C										
LCS Dup (B089100-BSD1)					Prepared: 01/21/14 Analyzed: 01/22/14					
Acenaphthene	38.7	5.0	µg/L	50.0		77.4	40-140	4.10	20	
Acenaphthylene	38.6	5.0	µg/L	50.0		77.2	40-140	4.21	20	
Anthracene	41.7	5.0	µg/L	50.0		83.4	40-140	5.44	20	
Benzo(a)anthracene	42.1	5.0	µg/L	50.0		84.3	40-140	5.61	20	
Benzo(a)pyrene	41.8	5.0	µg/L	50.0		83.6	40-140	3.64	20	
Benzo(b)fluoranthene	41.4	5.0	µg/L	50.0		82.8	40-140	2.53	20	
Benzo(g,h,i)perylene	40.8	5.0	µg/L	50.0		81.7	40-140	12.0	20	
Benzo(k)fluoranthene	40.5	5.0	µg/L	50.0		81.1	40-140	6.91	20	
Chrysene	40.8	5.0	µg/L	50.0		81.7	40-140	3.27	20	
Dibenz(a,h)anthracene	41.8	5.0	µg/L	50.0		83.6	40-140	6.64	20	
Fluoranthene	45.3	5.0	µg/L	50.0		90.5	40-140	0.865	20	
Fluorene	39.9	5.0	µg/L	50.0		79.8	40-140	1.81	20	
Indeno(1,2,3-cd)pyrene	41.3	5.0	µg/L	50.0		82.6	40-140	12.3	50	‡
2-Methylnaphthalene	34.4	5.0	µg/L	50.0		68.9	40-140	8.70	20	
Naphthalene	36.3	5.0	µg/L	50.0		72.7	40-140	4.76	20	
Phenanthrene	41.0	5.0	µg/L	50.0		81.9	40-140	5.67	20	
Pyrene	45.3	5.0	µg/L	50.0		90.5	40-140	12.1	20	
Surrogate: Nitrobenzene-d5	75.5		µg/L	100		75.5	30-130			
Surrogate: 2-Fluorobiphenyl	79.6		µg/L	100		79.6	30-130			
Surrogate: p-Terphenyl-d14	88.3		µg/L	100		88.3	30-130			

QUALITY CONTROL
Petroleum Hydrocarbons Analyses - EPH - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch B089345 - SW-846 3510C
Blank (B089345-BLK1)

Prepared: 01/25/14 Analyzed: 01/27/14

C9-C18 Aliphatics	ND	100	µg/L							
C19-C36 Aliphatics	ND	100	µg/L							
Unadjusted C11-C22 Aromatics	ND	100	µg/L							
C11-C22 Aromatics	ND	100	µg/L							
Acenaphthene	ND	2.0	µg/L							
Acenaphthylene	ND	2.0	µg/L							
Anthracene	ND	2.0	µg/L							
Benzo(a)anthracene	ND	2.0	µg/L							
Benzo(a)pyrene	ND	2.0	µg/L							
Benzo(b)fluoranthene	ND	2.0	µg/L							
Benzo(g,h,i)perylene	ND	2.0	µg/L							
Benzo(k)fluoranthene	ND	2.0	µg/L							
Chrysene	ND	2.0	µg/L							
Dibenz(a,h)anthracene	ND	2.0	µg/L							
Fluoranthene	ND	2.0	µg/L							
Fluorene	ND	2.0	µg/L							
Indeno(1,2,3-cd)pyrene	ND	2.0	µg/L							
2-Methylnaphthalene	ND	2.0	µg/L							
Naphthalene	ND	2.0	µg/L							
Phenanthrene	ND	2.0	µg/L							
Pyrene	ND	2.0	µg/L							
n-Decane	ND	2.0	µg/L							
n-Docosane	ND	2.0	µg/L							
n-Dodecane	ND	2.0	µg/L							
n-Eicosane	ND	2.0	µg/L							
n-Hexacosane	ND	2.0	µg/L							
n-Hexadecane	ND	2.0	µg/L							
n-Hexatriacontane	ND	2.0	µg/L							
n-Nonadecane	ND	2.0	µg/L							
n-Nonane	ND	2.0	µg/L							
n-Octacosane	ND	2.0	µg/L							
n-Octadecane	ND	2.0	µg/L							
n-Tetracosane	ND	2.0	µg/L							
n-Tetradecane	ND	2.0	µg/L							
n-Triacontane	ND	2.0	µg/L							
Naphthalene-aliphatic fraction	ND	2.0	µg/L							
2-Methylnaphthalene-aliphatic fraction	ND	2.0	µg/L							
Surrogate: Chlorooctadecane (COD)	64.7		µg/L	99.8		64.8	40-140			
Surrogate: o-Terphenyl (OTP)	84.3		µg/L	100		84.3	40-140			
Surrogate: 2-Bromonaphthalene	81.7		µg/L	100		81.7	40-140			
Surrogate: 2-Fluorobiphenyl	86.3		µg/L	100		86.3	40-140			

LCS (B089345-BS1)

Prepared: 01/25/14 Analyzed: 01/27/14

Acenaphthene	83.4	2.0	µg/L	100		83.4	40-140			
Acenaphthylene	80.2	2.0	µg/L	100		80.2	40-140			
Anthracene	89.7	2.0	µg/L	100		89.7	40-140			
Benzo(a)anthracene	94.3	2.0	µg/L	100		94.3	40-140			
Benzo(a)pyrene	89.1	2.0	µg/L	100		89.1	40-140			
Benzo(b)fluoranthene	95.6	2.0	µg/L	100		95.6	40-140			
Benzo(g,h,i)perylene	97.4	2.0	µg/L	100		97.4	40-140			
Benzo(k)fluoranthene	92.9	2.0	µg/L	100		92.9	40-140			
Chrysene	87.9	2.0	µg/L	100		87.9	40-140			

QUALITY CONTROL
Petroleum Hydrocarbons Analyses - EPH - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch B089345 - SW-846 3510C
LCS (B089345-BS1)

Prepared: 01/25/14 Analyzed: 01/27/14

Dibenz(a,h)anthracene	97.4	2.0	µg/L	100		97.4	40-140			
Fluoranthene	92.3	2.0	µg/L	100		92.3	40-140			
Fluorene	87.5	2.0	µg/L	100		87.5	40-140			
Indeno(1,2,3-cd)pyrene	98.7	2.0	µg/L	100		98.7	40-140			
2-Methylnaphthalene	76.3	2.0	µg/L	100		76.3	40-140			
Naphthalene	67.0	2.0	µg/L	100		67.0	40-140			
Phenanthrene	90.7	2.0	µg/L	100		90.7	40-140			
Pyrene	90.5	2.0	µg/L	100		90.5	40-140			
n-Decane	50.8	2.0	µg/L	100		50.8	40-140			
n-Docosane	89.4	2.0	µg/L	100		89.4	40-140			
n-Dodecane	63.2	2.0	µg/L	100		63.2	40-140			
n-Eicosane	86.9	2.0	µg/L	100		86.9	40-140			
n-Hexacosane	91.3	2.0	µg/L	100		91.3	40-140			
n-Hexadecane	82.5	2.0	µg/L	100		82.5	40-140			
n-Hexatriacontane	88.4	2.0	µg/L	100		88.4	40-140			
n-Nonadecane	86.3	2.0	µg/L	100		86.3	40-140			
n-Nonane	38.1	2.0	µg/L	100		38.1	30-140			
n-Octacosane	89.2	2.0	µg/L	100		89.2	40-140			
n-Octadecane	86.1	2.0	µg/L	100		86.1	40-140			
n-Tetracosane	89.3	2.0	µg/L	100		89.3	40-140			
n-Tetradecane	73.9	2.0	µg/L	100		73.9	40-140			
n-Triacontane	91.1	2.0	µg/L	100		91.1	40-140			
Naphthalene-aliphatic fraction	ND	2.0	µg/L	100			0-5			
2-Methylnaphthalene-aliphatic fraction	ND	2.0	µg/L	100			0-5			
Surrogate: Chlorooctadecane (COD)	70.2		µg/L	99.8		70.3	40-140			
Surrogate: o-Terphenyl (OTP)	92.6		µg/L	100		92.6	40-140			
Surrogate: 2-Bromonaphthalene	88.2		µg/L	100		88.2	40-140			
Surrogate: 2-Fluorobiphenyl	93.8		µg/L	100		93.8	40-140			

LCS Dup (B089345-BS1)

Prepared: 01/25/14 Analyzed: 01/27/14

Acenaphthene	79.5	2.0	µg/L	100		79.5	40-140	4.84	25	
Acenaphthylene	76.7	2.0	µg/L	100		76.7	40-140	4.54	25	
Anthracene	87.0	2.0	µg/L	100		87.0	40-140	3.07	25	
Benzo(a)anthracene	89.5	2.0	µg/L	100		89.5	40-140	5.23	25	
Benzo(a)pyrene	85.0	2.0	µg/L	100		85.0	40-140	4.74	25	
Benzo(b)fluoranthene	90.5	2.0	µg/L	100		90.5	40-140	5.48	25	
Benzo(g,h,i)perylene	93.4	2.0	µg/L	100		93.4	40-140	4.21	25	
Benzo(k)fluoranthene	88.2	2.0	µg/L	100		88.2	40-140	5.17	25	
Chrysene	83.6	2.0	µg/L	100		83.6	40-140	5.00	25	
Dibenz(a,h)anthracene	93.1	2.0	µg/L	100		93.1	40-140	4.53	25	
Fluoranthene	87.4	2.0	µg/L	100		87.4	40-140	5.53	25	
Fluorene	83.4	2.0	µg/L	100		83.4	40-140	4.75	25	
Indeno(1,2,3-cd)pyrene	93.6	2.0	µg/L	100		93.6	40-140	5.35	25	
2-Methylnaphthalene	72.1	2.0	µg/L	100		72.1	40-140	5.64	25	
Naphthalene	63.2	2.0	µg/L	100		63.2	40-140	5.93	25	
Phenanthrene	86.4	2.0	µg/L	100		86.4	40-140	4.90	25	
Pyrene	85.5	2.0	µg/L	100		85.5	40-140	5.65	25	
n-Decane	47.0	2.0	µg/L	100		47.0	40-140	7.74	25	
n-Docosane	85.9	2.0	µg/L	100		85.9	40-140	3.98	25	
n-Dodecane	59.8	2.0	µg/L	100		59.8	40-140	5.57	25	
n-Eicosane	83.4	2.0	µg/L	100		83.4	40-140	4.12	25	
n-Hexacosane	87.9	2.0	µg/L	100		87.9	40-140	3.80	25	

QUALITY CONTROL
Petroleum Hydrocarbons Analyses - EPH - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch B089345 - SW-846 3510C
LCS Dup (B089345-BSD1)

Prepared: 01/25/14 Analyzed: 01/27/14

n-Hexadecane	79.2	2.0	µg/L	100		79.2	40-140	4.12	25	
n-Hexatriacontane	86.0	2.0	µg/L	100		86.0	40-140	2.73	25	
n-Nonadecane	82.8	2.0	µg/L	100		82.8	40-140	4.13	25	
n-Nonane	35.5	2.0	µg/L	100		35.5	30-140	7.28	25	
n-Octacosane	85.9	2.0	µg/L	100		85.9	40-140	3.69	25	
n-Octadecane	82.5	2.0	µg/L	100		82.5	40-140	4.27	25	
n-Tetracosane	85.9	2.0	µg/L	100		85.9	40-140	3.95	25	
n-Tetradecane	71.2	2.0	µg/L	100		71.2	40-140	3.66	25	
n-Triacontane	87.9	2.0	µg/L	100		87.9	40-140	3.50	25	
Naphthalene-aliphatic fraction	ND	2.0	µg/L	100			0-5			
2-Methylnaphthalene-aliphatic fraction	ND	2.0	µg/L	100			0-5			
Surrogate: Chlorooctadecane (COD)	67.9		µg/L	99.8		68.0	40-140			
Surrogate: o-Terphenyl (OTP)	84.2		µg/L	100		84.2	40-140			
Surrogate: 2-Bromonaphthalene	87.2		µg/L	100		87.2	40-140			
Surrogate: 2-Fluorobiphenyl	93.3		µg/L	100		93.3	40-140			

QUALITY CONTROL
Metals Analyses (Total) - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch B089111 - SW-846 3005A
Blank (B089111-BLK1)

Prepared: 01/21/14 Analyzed: 01/22/14

Antimony	ND	1.0	µg/L
Arsenic	ND	0.40	µg/L
Barium	ND	10	µg/L
Beryllium	ND	0.40	µg/L
Cadmium	ND	0.50	µg/L
Chromium	ND	1.0	µg/L
Lead	ND	1.0	µg/L
Nickel	ND	5.0	µg/L
Selenium	ND	5.0	µg/L
Silver	ND	0.50	µg/L
Thallium	ND	0.20	µg/L
Vanadium	ND	5.0	µg/L
Zinc	ND	10	µg/L

LCS (B089111-BS1)

Prepared: 01/21/14 Analyzed: 01/22/14

Antimony	252	5.0	µg/L	250	101	80-120
Arsenic	247	2.0	µg/L	250	98.6	80-120
Barium	247	50	µg/L	250	99.0	80-120
Beryllium	250	2.0	µg/L	250	100	80-120
Cadmium	249	2.5	µg/L	250	99.5	80-120
Chromium	243	5.0	µg/L	250	97.4	80-120
Lead	256	5.0	µg/L	250	102	80-120
Nickel	240	25	µg/L	250	95.9	80-120
Selenium	245	25	µg/L	250	98.1	80-120
Silver	256	2.5	µg/L	250	102	80-120
Thallium	240	1.0	µg/L	250	95.9	80-120
Vanadium	237	25	µg/L	250	95.0	80-120
Zinc	256	50	µg/L	250	102	80-120

LCS Dup (B089111-BSD1)

Prepared: 01/21/14 Analyzed: 01/22/14

Antimony	251	5.0	µg/L	250	100	80-120	0.123	20
Arsenic	246	2.0	µg/L	250	98.5	80-120	0.0712	20
Barium	252	50	µg/L	250	101	80-120	2.04	20
Beryllium	248	2.0	µg/L	250	99.2	80-120	0.790	20
Cadmium	248	2.5	µg/L	250	99.1	80-120	0.390	20
Chromium	247	5.0	µg/L	250	98.8	80-120	1.39	20
Lead	251	5.0	µg/L	250	101	80-120	1.79	20
Nickel	240	25	µg/L	250	96.2	80-120	0.226	20
Selenium	253	25	µg/L	250	101	80-120	3.25	20
Silver	254	2.5	µg/L	250	102	80-120	0.598	20
Thallium	234	1.0	µg/L	250	93.8	80-120	2.26	20
Vanadium	247	25	µg/L	250	98.7	80-120	3.83	20
Zinc	248	50	µg/L	250	99.2	80-120	3.19	20

QUALITY CONTROL
Metals Analyses (Total) - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch B089111 - SW-846 3005A

Duplicate (B089111-DUP1)		Source: 14A0607-02		Prepared: 01/21/14 Analyzed: 01/22/14						
Antimony	ND	1.0	µg/L		ND			NC	20	
Arsenic	ND	0.40	µg/L		ND			NC	20	
Barium	89.3	10	µg/L		87.4			2.19	20	
Beryllium	ND	0.40	µg/L		ND			NC	20	
Cadmium	ND	0.50	µg/L		ND			NC	20	
Chromium	ND	1.0	µg/L		ND			NC	20	
Lead	ND	1.0	µg/L		ND			NC	20	
Nickel	10.6	5.0	µg/L		10.1			5.16	20	
Selenium	ND	5.0	µg/L		ND			NC	20	
Silver	ND	0.50	µg/L		ND			NC	20	
Thallium	ND	0.20	µg/L		ND			NC	20	
Vanadium	ND	5.0	µg/L		ND			NC	20	
Zinc	ND	10	µg/L		ND			NC	20	

Matrix Spike (B089111-MS1)		Source: 14A0607-02		Prepared: 01/21/14 Analyzed: 01/22/14						
Antimony	270	10	µg/L	250	ND	108	75-125			
Arsenic	257	4.0	µg/L	250	ND	103	75-125			
Barium	349	100	µg/L	250	87.4	105	75-125			
Beryllium	266	4.0	µg/L	250	ND	106	75-125			
Cadmium	259	5.0	µg/L	250	ND	104	75-125			
Chromium	253	10	µg/L	250	ND	101	75-125			
Lead	272	10	µg/L	250	0.113	109	75-125			
Nickel	253	50	µg/L	250	10.1	97.2	75-125			
Selenium	250	50	µg/L	250	1.90	99.2	75-125			
Silver	262	5.0	µg/L	250	ND	105	75-125			
Thallium	261	2.0	µg/L	250	ND	104	75-125			
Vanadium	259	50	µg/L	250	ND	103	75-125			
Zinc	251	100	µg/L	250	5.06	98.6	75-125			

Batch B089131 - SW-846 7470A Prep

Blank (B089131-BLK1)		Prepared & Analyzed: 01/22/14								
Mercury	ND	0.00010	mg/L							
LCS (B089131-BS1)		Prepared & Analyzed: 01/22/14								
Mercury	0.00203	0.00010	mg/L	0.00200		102	80-120			
LCS Dup (B089131-BSD1)		Prepared & Analyzed: 01/22/14								
Mercury	0.00204	0.00010	mg/L	0.00200		102	80-120	0.232	20	
Duplicate (B089131-DUP1)		Source: 14A0607-01		Prepared & Analyzed: 01/22/14						
Mercury	ND	0.00010	mg/L		ND			NC	20	

QUALITY CONTROL

Metals Analyses (Total) - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch B089131 - SW-846 7470A Prep

Matrix Spike (B089131-MS1)

Source: 14A0607-01

Prepared & Analyzed: 01/22/14

Mercury	0.00203	0.00010	mg/L	0.00200	ND	101	75-125			
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FLAG/QUALIFIER SUMMARY

*	QC result is outside of established limits.
†	Wide recovery limits established for difficult compound.
‡	Wide RPD limits established for difficult compound.
#	Data exceeded client recommended or regulatory level
	Percent recoveries and relative percent differences (RPDs) are determined by the software using values in the calculation which have not been rounded.
	No results have been blank subtracted unless specified in the case narrative section.
L-02	Laboratory fortified blank/laboratory control sample recovery and duplicate recoveries outside of control limits. Data validation is not affected since all results are "not detected" for associated samples in this batch and bias is on the high side.
L-04	Laboratory fortified blank/laboratory control sample recovery and duplicate recovery are outside of control limits. Reported value for this compound is likely to be biased on the low side.
L-07	Either laboratory fortified blank/laboratory control sample or duplicate recovery is outside of control limits, but the other is within limits. RPD between the two LFB/LCS results is within method specified criteria.
L-14	Compound classified by MA CAM as difficult with acceptable recoveries of 40-160%. Recovery does not meet 70-130% criteria but does meet difficult compound criteria.
RL-07	Elevated reporting limit based on lowest point in calibration. MA CAM reporting limit not met.
V-16	Response factor is less than method specified minimum acceptable value. Reduced precision and accuracy may be associated with reported result.
V-20	Continuing calibration did not meet method specifications and was biased on the high side. Data validation is not affected since sample result was "not detected" for this compound.

CERTIFICATIONS

Certified Analyses included in this Report

Analyte	Certifications
MADEP-EPH-04-1.1 in Water	
C9-C18 Aliphatics	CT,NC,WA,ME,NH-P
C19-C36 Aliphatics	CT,NC,WA,ME,NH-P
Unadjusted C11-C22 Aromatics	CT,NC,WA,ME,NH-P
C11-C22 Aromatics	CT,NC,WA,ME,NH-P
Acenaphthene	CT,NC,WA,ME,NH-P
Acenaphthylene	CT,NC,WA,ME,NH-P
Anthracene	CT,NC,WA,ME,NH-P
Benzo(a)anthracene	CT,NC,WA,ME,NH-P
Benzo(a)pyrene	CT,NC,WA,ME,NH-P
Benzo(b)fluoranthene	CT,NC,WA,ME,NH-P
Benzo(g,h,i)perylene	CT,NC,WA,ME,NH-P
Benzo(k)fluoranthene	CT,NC,WA,ME,NH-P
Chrysene	CT,NC,WA,ME,NH-P
Dibenz(a,h)anthracene	CT,NC,WA,ME,NH-P
Fluoranthene	CT,NC,WA,ME,NH-P
Fluorene	CT,NC,WA,ME
Indeno(1,2,3-cd)pyrene	CT,NC,WA,ME,NH-P
2-Methylnaphthalene	CT,NC,WA,ME
Naphthalene	CT,NC,WA,ME,NH-P
Phenanthrene	CT,NC,WA,ME,NH-P
Pyrene	CT,NC,WA,ME,NH-P
SW-846 6020A in Water	
Antimony	CT,NH,NY,NC,ME,VA,NJ
Arsenic	CT,NH,NY,NC,ME,VA,NJ
Barium	CT,NH,NY,NC,ME,VA,NJ
Beryllium	CT,NH,NY,NC,ME,VA,NJ
Cadmium	CT,NH,NY,RI,NC,ME,VA,NJ
Chromium	CT,NH,NY,NC,ME,VA,NJ
Lead	CT,NH,NY,NC,ME,VA,NJ
Nickel	CT,NH,NY,NC,ME,VA,NJ
Selenium	CT,NH,NY,NC,ME,VA,NJ
Silver	CT,NH,NY,NC,ME,VA,NJ
Thallium	CT,NH,NY,NC,ME,VA,NJ
Vanadium	CT,NC,NH,NY,ME,VA,NJ
Zinc	CT,NH,NY,NC,ME,VA,NJ
SW-846 7470A in Water	
Mercury	CT,NH,NY,NC,ME,VA,NJ
SW-846 8260C in Water	
Acetone	CT,NH,NY,ME
tert-Amyl Methyl Ether (TAME)	NH,NY,ME
Benzene	CT,NH,NY,ME
Bromobenzene	ME
Bromochloromethane	NH,NY,ME
Bromodichloromethane	CT,NH,NY,ME
Bromoform	CT,NH,NY,ME
Bromomethane	CT,NH,NY,ME

CERTIFICATIONS

Certified Analyses included in this Report

Analyte	Certifications
<i>SW-846 8260C in Water</i>	
2-Butanone (MEK)	CT,NH,NY,ME
n-Butylbenzene	NY,ME
sec-Butylbenzene	NY,ME
tert-Butylbenzene	NY,ME
tert-Butyl Ethyl Ether (TBEE)	NH,NY,ME
Carbon Disulfide	CT,NH,NY,ME
Carbon Tetrachloride	CT,NH,NY,ME
Chlorobenzene	CT,NH,NY,ME
Chlorodibromomethane	CT,NH,NY,ME
Chloroethane	CT,NH,NY,ME
Chloroform	CT,NH,NY,ME
Chloromethane	CT,NH,NY,ME
2-Chlorotoluene	NY,ME
4-Chlorotoluene	NY,ME
Dibromomethane	NH,NY,ME
1,2-Dichlorobenzene	CT,NY,ME
1,3-Dichlorobenzene	CT,NH,NY,ME
1,4-Dichlorobenzene	CT,NH,NY,ME
Dichlorodifluoromethane (Freon 12)	NH,NY,ME
1,1-Dichloroethane	CT,NH,NY,ME
1,2-Dichloroethane	CT,NH,NY,ME
1,1-Dichloroethylene	CT,NH,NY,ME
cis-1,2-Dichloroethylene	NY,ME
trans-1,2-Dichloroethylene	CT,NH,NY,ME
1,2-Dichloropropane	CT,NH,NY,ME
1,3-Dichloropropane	NY,ME
2,2-Dichloropropane	NH,NY,ME
1,1-Dichloropropene	NH,NY,ME
cis-1,3-Dichloropropene	CT,NH,NY,ME
trans-1,3-Dichloropropene	CT,NH,NY,ME
Diisopropyl Ether (DIPE)	NH,NY,ME
Ethylbenzene	CT,NH,NY,ME
Hexachlorobutadiene	CT,NH,NY,ME
2-Hexanone (MBK)	CT,NH,NY,ME
Isopropylbenzene (Cumene)	NY,ME
p-Isopropyltoluene (p-Cymene)	CT,NH,NY,ME
Methyl tert-Butyl Ether (MTBE)	CT,NH,NY,ME
Methylene Chloride	CT,NH,NY,ME
4-Methyl-2-pentanone (MIBK)	CT,NH,NY,ME
Naphthalene	NH,NY,ME
n-Propylbenzene	CT,NH,NY,ME
Styrene	CT,NH,NY,ME
1,1,1,2-Tetrachloroethane	CT,NH,NY,ME
1,1,2,2-Tetrachloroethane	CT,NH,NY,ME
Tetrachloroethylene	CT,NH,NY,ME
Toluene	CT,NH,NY,ME
1,2,3-Trichlorobenzene	NH,NY,ME

CERTIFICATIONS

Certified Analyses included in this Report

Analyte	Certifications
SW-846 8260C in Water	
1,2,4-Trichlorobenzene	CT,NH,NY,ME
1,1,1-Trichloroethane	CT,NH,NY,ME
1,1,2-Trichloroethane	CT,NH,NY,ME
Trichloroethylene	CT,NH,NY,ME
Trichlorofluoromethane (Freon 11)	CT,NH,NY,ME
1,2,3-Trichloropropane	NH,NY,ME
1,2,4-Trimethylbenzene	NY,ME
1,3,5-Trimethylbenzene	NY,ME
Vinyl Chloride	CT,NH,NY,ME
m+p Xylene	CT,NH,NY,ME
o-Xylene	CT,NH,NY,ME

SW-846 8270D in Water

Acenaphthene	CT,NY,NH,ME,NC,VA,NJ
Acenaphthylene	CT,NY,NH,ME,NC,VA,NJ
Anthracene	CT,NY,NH,ME,NC,VA,NJ
Benzo(a)anthracene	CT,NY,NH,ME,NC,VA,NJ
Benzo(a)pyrene	CT,NY,NH,ME,NC,VA,NJ
Benzo(b)fluoranthene	CT,NY,NH,ME,NC,VA,NJ
Benzo(g,h,i)perylene	CT,NY,NH,ME,NC,VA,NJ
Benzo(k)fluoranthene	CT,NY,NH,ME,NC,VA,NJ
Chrysene	CT,NY,NH,ME,NC,VA,NJ
Dibenz(a,h)anthracene	CT,NY,NH,ME,NC,VA,NJ
Fluoranthene	CT,NY,NH,ME,NC,VA,NJ
Fluorene	CT,NY,NH,ME,NC,VA,NJ
Indeno(1,2,3-cd)pyrene	CT,NY,NH,ME,NC,VA,NJ
2-Methylnaphthalene	CT,NY,NH,ME,NC,VA,NJ
Naphthalene	CT,NY,NH,ME,NC,VA,NJ
Phenanthrene	CT,NY,NH,ME,NC,VA,NJ
Pyrene	CT,NY,NH,ME,NC,VA,NJ

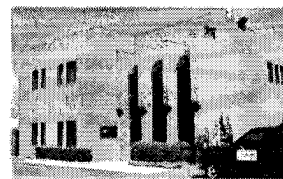
The CON-TEST Environmental Laboratory operates under the following certifications and accreditations:

Code	Description	Number	Expires
AIHA	AIHA-LAP, LLC	100033	02/1/2016
MA	Massachusetts DEP	M-MA100	06/30/2014
CT	Connecticut Department of Public Health	PH-0567	09/30/2015
NY	New York State Department of Health	10899 NELAP	04/1/2014
NH-S	New Hampshire Environmental Lab	2516 NELAP	02/5/2014
RI	Rhode Island Department of Health	LAO00112	12/30/2014
NC	North Carolina Div. of Water Quality	652	12/31/2014
NJ	New Jersey DEP	MA007 NELAP	06/30/2014
FL	Florida Department of Health	E871027 NELAP	06/30/2014
VT	Vermont Department of Health Lead Laboratory	LL015036	07/30/2014
WA	State of Washington Department of Ecology	C2065	02/23/2014
ME	State of Maine	2011028	06/9/2015
VA	Commonwealth of Virginia	460217	12/14/2014
NH-P	New Hampshire Environmental Lab	2557 NELAP	09/6/2014

39 Spruce St.
East Longmeadow, MA. 01028
P: 413-525-2332
F: 413-525-6405
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Page 1 of 2



Sample Receipt Checklist

CLIENT NAME: TRC Environmental RECEIVED BY: KOB DATE: 1-21-14

1) Was the chain(s) of custody relinquished and signed? Yes No No CoC Included

2) Does the chain agree with the samples?

If not, explain:

3) Are all the samples in good condition?

If not, explain:

4) How were the samples received:

On Ice ☒ Direct from Sampling ☐ Ambient ☐ In Cooler(s) ☒

Were the samples received in Temperature Compliance of (2-6°C)? Yes No N/A

Temperature °C by Temp blank _____ Temperature °C by Temp gun 5.4°C

5) Are there Dissolved samples for the lab to filter?

Yes No

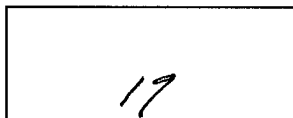
Who was notified _____ Date _____ Time _____

6) Are there any RUSH or SHORT HOLDING TIME samples?

Yes No

Who was notified _____ Date _____ Time _____

7) Location where samples are stored:



Permission to subcontract samples? Yes No
(Walk-in clients only) if not already approved
Client Signature: _____

8) Do all samples have the proper Acid pH: Yes No N/A

9) Do all samples have the proper Base pH: Yes No N/A

10) Was the PC notified of any discrepancies with the CoC vs the samples: Yes No N/A

Containers received at Con-Test

	# of containers		# of containers
1 Liter Amber	<u>20</u>	8 oz amber/clear jar	
500 mL Amber		4 oz amber/clear jar	
250 mL Amber (8oz amber)		2 oz amber/clear jar	
1 Liter Plastic		Plastic Bag / Ziploc	
500 mL Plastic		SOC Kit	
250 mL plastic	<u>12</u>	Non-ConTest Container	
40 mL Vial - type listed below	<u>18</u>	Perchlorate Kit	
Colisure / bacteria bottle		Flashpoint bottle	
Dissolved Oxygen bottle		Other glass jar	
Encore		Other	

Laboratory Comments:

40 mL vials: # HCl _____ # Methanol _____

Doc# 277 # Bisulfate _____ # DI Water _____

Rev. 4 August 2013 # Thiosulfate _____ Unpreserved

Time and Date Frozen:

Login Sample Receipt Checklist

(Rejection Criteria Listing - Using Sample Acceptance Policy)

Any False statement will be brought to the attention of Client

Question	Answer (True/False)		Comment
	T/F/NA		
1) The cooler's custody seal, if present, is intact.	NA		
2) The cooler or samples do not appear to have been compromised or tampered with.	T		
3) Samples were received on ice.	T		
4) Cooler Temperature is acceptable.	T		
5) Cooler Temperature is recorded.	T		
6) COC is filled out in ink and legible.	T		
7) COC is filled out with all pertinent information.	T		
8) Field Sampler's name present on COC.	T		
9) There are no discrepancies between the sample IDs on the container and the COC.	T		
10) Samples are received within Holding Time.	T		
11) Sample containers have legible labels.	T		
12) Containers are not broken or leaking.	T		
13) Air Cassettes are not broken/open.	NA		
14) Sample collection date/times are provided.	T		
15) Appropriate sample containers are used.	T		
16) Proper collection media used.	T		
17) No headspace sample bottles are completely filled.	T		
18) There is sufficient volume for all requested analyses, including any requested MS/MSDs.	T		
19) Trip blanks provided if applicable.	KOB NA T		
20) VOA sample vials do not have head space or bubble is <6mm (1/4") in diameter.	T		
21) Samples do not require splitting or compositing.	T		

Doc #277 Rev. 4 August 2013

Who notified of False statements?

Log-In Technician Initials: KOB

Date/Time:

Date/Time: 1-28-14

1700

MADEP MCP Analytical Method Report Certification Form

Laboratory Name: Con-Test Analytical Laboratory

Project #: 14A0607

Project Location: 163 Glen St., Somerville, MA

RTN:

This Form provides certifications for the following data set: [list Laboratory Sample ID Number(s)]

14A0607-01 thru 14A0607-06

Matrices: Water

CAM Protocol (check all that below)

8260 VOC CAM II A (X)	7470/7471 Hg CAM IIIB (X)	MassDEP VPH CAM IV A ()	8081 Pesticides CAM V B ()	7196 Hex Cr CAM VI B ()	MassDEP APH CAM IX A ()
8270 SVOC CAM II B (X)	7010 Metals CAM III C ()	MassDEP EPH CAM IV A (X)	8151 Herbicides CAM V C ()	8330 Explosives CAM VIII A ()	TO-15 VOC CAM IX B ()
6010 Metals CAM III A ()	6020 Metals CAM III D (X)	8082 PCB CAM V A ()	9014 Total Cyanide/PAC CAM VI A ()	6860 Perchlorate CAM VIII B ()	

Affirmative response to Questions A through F is required for "Presumptive Certainty" status

A	Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times?	☒ Yes ☐ No ¹
B	Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed?	☒ Yes ☐ No ¹
C	Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances?	☒ Yes ☐ No ¹
D	Does the laboratory report comply with all the reporting requirements specified in CAM VII A, Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data?	☒ Yes ☐ No ¹
E a	VPH, EPH, and APH Methods only: Was each method conducted without significant modification(s)? (Refer to the individual method(s) for a list of significant modifications).	☒ Yes ☐ No ¹
E b	APH and TO-15 Methods only: Was the complete analyte list reported for each method?	☐ Yes ☐ No ¹
F	Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all No responses to Questions A through E)?	☒ Yes ☐ No ¹

A response to questions G, H and I below is required for "Presumptive Certainty" status

G	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)?	☐ Yes ☒ No ¹
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Data User Note: Data that achieve "Presumptive Certainty" status may not necessarily meet the data usability and representativeness requirements described in 310 CMR 40. 1056 (2)(k) and WSC-07-350.

H	Were all QC performance standards specified in the CAM protocol(s) achieved?	☐ Yes ☒ No ¹
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?	☐ Yes ☒ No ¹

¹ All Negative responses must be addressed in an attached Environmental Laboratory case narrative.

I, the undersigned, attest under the pains and penalties of perjury that, based upon my personal inquiry of those responsible for obtaining the information, the material contained in this analytical report is, to the best of my knowledge and belief, accurate and complete.

Signature: 

Position: Laboratory Manager

Printed Name: Daren J. Damboragian

Date: 01/28/14

January 28, 2014

Dave Gill
TRC Solutions - Lowell
650 Suffolk Street
Lowell, MA 01852

Project Location: 163 Glen St., Somerville, MA
Client Job Number:
Project Number: 212867 Phase000002
Laboratory Work Order Number: 14A0624

Enclosed are results of analyses for samples received by the laboratory on January 21, 2014. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink that reads "Meghan E. Kelley". The signature is written in a cursive, flowing style.

Meghan E. Kelley
Project Manager

TRC Solutions - Lowell
650 Suffolk Street
Lowell, MA 01852
ATTN: Dave Gill

REPORT DATE: 1/28/2014

PURCHASE ORDER NUMBER:

PROJECT NUMBER: 212867 Phase000002

ANALYTICAL SUMMARY

WORK ORDER NUMBER: 14A0624

The results of analyses performed on the following samples submitted to the CON-TEST Analytical Laboratory are found in this report.

PROJECT LOCATION: 163 Glen St., Somerville, MA

FIELD SAMPLE #	LAB ID:	MATRIX	SAMPLE DESCRIPTION	TEST	SUB LAB
SG-1	14A0624-01	Soil Gas		EPA TO-15	

CASE NARRATIVE SUMMARY

All reported results are within defined laboratory quality control objectives unless listed below or otherwise qualified in this report.

For method TO-15, sample injection volumes required to meet MA CAM RLs are not required to meet regulatory values for soil gas samples. MA CAM RLs were not met for the soil gas samples.

EPA TO-15**Qualifications:**

Laboratory fortified blank/laboratory control sample recovery is outside of control limits. Reported value for this compound is likely to be biased on the low side.

Analyte & Samples(s) Qualified:

2-Hexanone (MBK), 4-Methyl-2-pentanone (MIBK), Ethanol, Naphthalene, Vinyl Acetate

14A0624-01[SG-1], B089272-BLK1, B089272-BS1

Continuing calibration did not meet method specifications and was biased on the high side for this compound. Increased uncertainty is associated with the reported value which is likely to be biased on the high side.

Analyte & Samples(s) Qualified:**Isopropanol**

B089272-BS1, S005346-CCV1

The results of analyses reported only relate to samples submitted to the Con-Test Analytical Laboratory for testing.

I certify that the analyses listed above, unless specifically listed as subcontracted, if any, were performed under my direction according to the approved methodologies listed in this document, and that based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.



Michael A. Erickson
Laboratory Director

ANALYTICAL RESULTS

Project Location: 163 Glen St., Somerville, MA
Date Received: 1/21/2014
Field Sample #: SG-1
Sample ID: 14A0624-01
Sample Matrix: Soil Gas
Sampled: 1/20/2014 16:15

Sample Description/Location:
Sub Description/Location:
Canister ID: 1291
Canister Size: 6 liter
Flow Controller ID: 4039
Sample Type: 30 min

Work Order: 14A0624
Initial Vacuum(in Hg): -29
Final Vacuum(in Hg): -4
Receipt Vacuum(in Hg): -3.6
Flow Controller Type: Fixed-Orifice
Flow Controller Calibration
RPD Pre and Post-Sampling: <20%

EPA TO-15								
Analyte	ppbv		Flag/Qual	ug/m3		Dilution	Date/Time	
	Results	RL		Results	RL		Analyzed	Analyst
Acetone	280	40		660	95	20	1/24/14 14:54	TPH
Benzene	1.6	0.10		5.2	0.32	2	1/23/14 0:29	TPH
Benzyl chloride	ND	0.10		ND	0.52	2	1/23/14 0:29	TPH
Bromodichloromethane	ND	0.10		ND	0.67	2	1/23/14 0:29	TPH
Bromoform	ND	0.10		ND	1.0	2	1/23/14 0:29	TPH
Bromomethane	0.18	0.10		0.70	0.39	2	1/23/14 0:29	TPH
1,3-Butadiene	4.6	0.10		10	0.22	2	1/23/14 0:29	TPH
2-Butanone (MEK)	8.2	4.0		24	12	2	1/23/14 0:29	TPH
Carbon Disulfide	6.6	1.0		20	3.1	2	1/23/14 0:29	TPH
Carbon Tetrachloride	ND	0.10		ND	0.63	2	1/23/14 0:29	TPH
Chlorobenzene	ND	0.10		ND	0.46	2	1/23/14 0:29	TPH
Chloroethane	1.2	0.10		3.1	0.26	2	1/23/14 0:29	TPH
Chloroform	ND	0.10		ND	0.49	2	1/23/14 0:29	TPH
Chloromethane	0.44	0.20		0.91	0.41	2	1/23/14 0:29	TPH
Cyclohexane	0.72	0.10		2.5	0.34	2	1/23/14 0:29	TPH
Dibromochloromethane	ND	0.10		ND	0.85	2	1/23/14 0:29	TPH
1,2-Dibromoethane (EDB)	ND	0.10		ND	0.77	2	1/23/14 0:29	TPH
1,2-Dichlorobenzene	ND	0.10		ND	0.60	2	1/23/14 0:29	TPH
1,3-Dichlorobenzene	ND	0.10		ND	0.60	2	1/23/14 0:29	TPH
1,4-Dichlorobenzene	ND	0.10		ND	0.60	2	1/23/14 0:29	TPH
Dichlorodifluoromethane (Freon 12)	0.50	0.10		2.5	0.49	2	1/23/14 0:29	TPH
1,1-Dichloroethane	ND	0.10		ND	0.40	2	1/23/14 0:29	TPH
1,2-Dichloroethane	ND	0.10		ND	0.40	2	1/23/14 0:29	TPH
1,1-Dichloroethylene	ND	0.10		ND	0.40	2	1/23/14 0:29	TPH
cis-1,2-Dichloroethylene	ND	0.10		ND	0.40	2	1/23/14 0:29	TPH
trans-1,2-Dichloroethylene	ND	0.10		ND	0.40	2	1/23/14 0:29	TPH
1,2-Dichloropropane	ND	0.10		ND	0.46	2	1/23/14 0:29	TPH
cis-1,3-Dichloropropene	ND	0.10		ND	0.45	2	1/23/14 0:29	TPH
trans-1,3-Dichloropropene	ND	0.10		ND	0.45	2	1/23/14 0:29	TPH
1,2-Dichloro-1,1,2,2-tetrafluoroethane (Freon 114)	ND	0.10		ND	0.70	2	1/23/14 0:29	TPH
1,4-Dioxane	ND	1.0		ND	3.6	2	1/23/14 0:29	TPH
Ethanol	11	4.0	L-03	21	7.5	2	1/23/14 0:29	TPH
Ethyl Acetate	ND	0.10		ND	0.36	2	1/23/14 0:29	TPH
Ethylbenzene	2.1	0.10		9.2	0.43	2	1/23/14 0:29	TPH
4-Ethyltoluene	ND	0.10		ND	0.49	2	1/23/14 0:29	TPH
Heptane	1.2	0.10		4.9	0.41	2	1/23/14 0:29	TPH
Hexachlorobutadiene	ND	0.10		ND	1.1	2	1/23/14 0:29	TPH

ANALYTICAL RESULTS

Project Location: 163 Glen St., Somerville, MA
Date Received: 1/21/2014
Field Sample #: SG-1
Sample ID: 14A0624-01
Sample Matrix: Soil Gas
Sampled: 1/20/2014 16:15

Sample Description/Location:
Sub Description/Location:
Canister ID: 1291
Canister Size: 6 liter
Flow Controller ID: 4039
Sample Type: 30 min

Work Order: 14A0624
Initial Vacuum(in Hg): -29
Final Vacuum(in Hg): -4
Receipt Vacuum(in Hg): -3.6
Flow Controller Type: Fixed-Orifice
Flow Controller Calibration
RPD Pre and Post-Sampling: <20%

EPA TO-15

Analyte	ppbv		Flag/Qual	ug/m3		Dilution	Date/Time		Analyst
	Results	RL		Results	RL		Analyzed		
Hexane	ND	4.0	L-03	ND	14	2	1/23/14	0:29	TPH
2-Hexanone (MBK)	0.74	0.10		3.0	0.41	2	1/23/14	0:29	TPH
Isopropanol	ND	4.0		ND	9.8	2	1/23/14	0:29	TPH
Methyl tert-Butyl Ether (MTBE)	ND	0.10	L-03	ND	0.36	2	1/23/14	0:29	TPH
Methylene Chloride	ND	1.0		ND	3.5	2	1/23/14	0:29	TPH
4-Methyl-2-pentanone (MIBK)	0.34	0.10		1.4	0.41	2	1/23/14	0:29	TPH
Naphthalene	ND	0.10	L-03	ND	0.52	2	1/23/14	0:29	TPH
Propene	82	4.0	L-03	140	6.9	2	1/23/14	0:29	TPH
Styrene	0.10	0.10		0.43	0.43	2	1/23/14	0:29	TPH
1,1,2,2-Tetrachloroethane	ND	0.10		ND	0.69	2	1/23/14	0:29	TPH
Tetrachloroethylene	54	0.10	L-03	360	0.68	2	1/23/14	0:29	TPH
Tetrahydrofuran	ND	0.10		ND	0.29	2	1/23/14	0:29	TPH
Toluene	1.4	0.10		5.2	0.38	2	1/23/14	0:29	TPH
1,2,4-Trichlorobenzene	ND	0.10	L-03	ND	0.74	2	1/23/14	0:29	TPH
1,1,1-Trichloroethane	7.1	0.10		39	0.55	2	1/23/14	0:29	TPH
1,1,2-Trichloroethane	ND	0.10		ND	0.55	2	1/23/14	0:29	TPH
Trichloroethylene	3.4	0.10	L-03	18	0.54	2	1/23/14	0:29	TPH
Trichlorofluoromethane (Freon 11)	0.20	0.10		1.1	0.56	2	1/23/14	0:29	TPH
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	ND	0.10		ND	0.77	2	1/23/14	0:29	TPH
1,2,4-Trimethylbenzene	ND	0.10	L-03	ND	0.49	2	1/23/14	0:29	TPH
1,3,5-Trimethylbenzene	ND	0.10		ND	0.49	2	1/23/14	0:29	TPH
Vinyl Acetate	ND	2.0		ND	7.0	2	1/23/14	0:29	TPH
Vinyl Chloride	ND	0.10	L-03	ND	0.26	2	1/23/14	0:29	TPH
m&p-Xylene	7.7	0.20		33	0.87	2	1/23/14	0:29	TPH
o-Xylene	2.6	0.10		11	0.43	2	1/23/14	0:29	TPH

Surrogates	% Recovery	% REC Limits	
4-Bromofluorobenzene (1)	99.0	70-130	1/23/14 0:29
4-Bromofluorobenzene (1)	89.9	70-130	1/24/14 14:54

Sample Extraction Data**Prep Method: TO-15 Prep-EPA TO-15**

Lab Number [Field ID]	Batch	Pressure Dilution	Pre Dilution	Pre-Dil Initial mL	Pre-Dil Final mL	Default Injection mL	Actual Injection mL	Date
14A0624-01 [SG-1]	B089272	1.5	1	N/A	1000	400	300	01/22/14

Prep Method: TO-15 Prep-EPA TO-15

Lab Number [Field ID]	Batch	Pressure Dilution	Pre Dilution	Pre-Dil Initial mL	Pre-Dil Final mL	Default Injection mL	Actual Injection mL	Date
14A0624-01RE1 [SG-1]	B089331	1.5	1	N/A	1000	400	30	01/23/14

QUALITY CONTROL

Air Toxics by EPA Compendium Methods - Quality Control

Analyte	ppbv		ug/m3		Spike Level ppbv	Source Result	%REC	%REC Limits	RPD	RPD Limit	Flag/Qual
	Results	RL	Results	RL							

Batch B089272 - TO-15 Prep

Blank (B089272-BLK1)

Prepared & Analyzed: 01/22/14

Acetone	ND	0.80									
Benzene	ND	0.020									
Benzyl chloride	ND	0.020									
Bromodichloromethane	ND	0.020									
Bromoform	ND	0.020									
Bromomethane	ND	0.020									
1,3-Butadiene	ND	0.020									
2-Butanone (MEK)	ND	0.80									
Carbon Disulfide	ND	0.20									
Carbon Tetrachloride	ND	0.020									
Chlorobenzene	ND	0.020									
Chloroethane	ND	0.020									
Chloroform	ND	0.020									
Chloromethane	ND	0.040									
Cyclohexane	ND	0.020									
Dibromochloromethane	ND	0.020									
1,2-Dibromoethane (EDB)	ND	0.020									
1,2-Dichlorobenzene	ND	0.020									
1,3-Dichlorobenzene	ND	0.020									
1,4-Dichlorobenzene	ND	0.020									
Dichlorodifluoromethane (Freon 12)	ND	0.020									
1,1-Dichloroethane	ND	0.020									
1,2-Dichloroethane	ND	0.020									
1,1-Dichloroethylene	ND	0.020									
cis-1,2-Dichloroethylene	ND	0.020									
trans-1,2-Dichloroethylene	ND	0.020									
1,2-Dichloropropane	ND	0.020									
cis-1,3-Dichloropropene	ND	0.020									
trans-1,3-Dichloropropene	ND	0.020									
1,2-Dichloro-1,1,2,2-tetrafluoroethane (Freon 114)	ND	0.020									
1,4-Dioxane	ND	0.20									
Ethanol	ND	0.80									L-03
Ethyl Acetate	ND	0.020									
Ethylbenzene	ND	0.020									
4-Ethyltoluene	ND	0.020									
Heptane	ND	0.020									
Hexachlorobutadiene	ND	0.020									
Hexane	ND	0.80									
2-Hexanone (MBK)	ND	0.020									L-03
Isopropanol	ND	0.80									
Methyl tert-Butyl Ether (MTBE)	ND	0.020									
Methylene Chloride	ND	0.20									
4-Methyl-2-pentanone (MIBK)	ND	0.020									L-03
Naphthalene	ND	0.020									L-03
Propene	ND	0.80									
Styrene	ND	0.020									

QUALITY CONTROL
Air Toxics by EPA Compendium Methods - Quality Control

Analyte	ppbv		ug/m3		Spike Level ppbv	Source Result	%REC	%REC Limits	RPD	RPD Limit	Flag/Qual	
	Results	RL	Results	RL								
Batch B089272 - TO-15 Prep												
Blank (B089272-BLK1)					Prepared & Analyzed: 01/22/14							
1,1,2,2-Tetrachloroethane	ND	0.020										
Tetrachloroethylene	ND	0.020										
Tetrahydrofuran	ND	0.020										
Toluene	ND	0.020										
1,2,4-Trichlorobenzene	ND	0.020										
1,1,1-Trichloroethane	ND	0.020										
1,1,2-Trichloroethane	ND	0.020										
Trichloroethylene	ND	0.020										
Trichlorofluoromethane (Freon 11)	ND	0.020										
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	ND	0.020										
1,2,4-Trimethylbenzene	ND	0.020										
1,3,5-Trimethylbenzene	ND	0.020										
Vinyl Acetate	ND	0.40									L-03	
Vinyl Chloride	ND	0.020										
m&p-Xylene	ND	0.040										
o-Xylene	ND	0.020										
Surrogate: 4-Bromofluorobenzene (1)	6.23				8.00		77.9	70-130				
LCS (B089272-BS1)					Prepared & Analyzed: 01/22/14							
Acetone	5.23				5.00		105	70-130				
Benzene	4.08				5.00		81.6	70-130				
Benzyl chloride	4.37				5.00		87.4	70-130				
Bromodichloromethane	4.58				5.00		91.6	70-130				
Bromoform	5.03				5.00		101	70-130				
Bromomethane	4.43				5.00		88.6	70-130				
1,3-Butadiene	4.29				5.00		85.8	70-130				
2-Butanone (MEK)	4.03				5.00		80.6	70-130				
Carbon Disulfide	5.98				5.00		120	70-130				
Carbon Tetrachloride	4.44				5.00		88.8	70-130				
Chlorobenzene	5.08				5.00		102	70-130				
Chloroethane	4.72				5.00		94.4	70-130				
Chloroform	5.50				5.00		110	70-130				
Chloromethane	3.93				5.00		78.6	70-130				
Cyclohexane	4.44				5.00		88.8	70-130				
Dibromochloromethane	4.90				5.00		98.0	70-130				
1,2-Dibromoethane (EDB)	4.82				5.00		96.4	70-130				
1,2-Dichlorobenzene	5.23				5.00		105	70-130				
1,3-Dichlorobenzene	5.31				5.00		106	70-130				
1,4-Dichlorobenzene	5.16				5.00		103	70-130				
Dichlorodifluoromethane (Freon 12)	4.91				5.00		98.2	70-130				
1,1-Dichloroethane	5.17				5.00		103	70-130				
1,2-Dichloroethane	4.79				5.00		95.8	70-130				
1,1-Dichloroethylene	4.67				5.00		93.4	70-130				
cis-1,2-Dichloroethylene	5.28				5.00		106	70-130				
trans-1,2-Dichloroethylene	5.03				5.00		101	70-130				
1,2-Dichloropropane	4.33				5.00		86.6	70-130				

QUALITY CONTROL
Air Toxics by EPA Compendium Methods - Quality Control

Analyte	ppbv		ug/m3		Spike Level ppbv	Source Result	%REC	%REC Limits	RPD	RPD Limit	Flag/Qual
	Results	RL	Results	RL							
Batch B089272 - TO-15 Prep											
LCS (B089272-BS1)					Prepared & Analyzed: 01/22/14						
cis-1,3-Dichloropropene	4.46				5.00		89.2	70-130			
trans-1,3-Dichloropropene	4.55				5.00		91.0	70-130			
1,2-Dichloro-1,1,2,2-tetrafluoroethane (Freon 114)	4.68				5.00		93.6	70-130			
1,4-Dioxane	4.41				5.00		88.2	70-130			
Ethanol	2.45				5.00		49.0	*	70-130		L-03
Ethyl Acetate	6.38				5.00		128	70-130			
Ethylbenzene	4.79				5.00		95.8	70-130			
4-Ethyltoluene	4.90				5.00		98.0	70-130			
Heptane	3.96				5.00		79.2	70-130			
Hexachlorobutadiene	4.97				5.00		99.4	70-130			
Hexane	4.33				5.00		86.6	70-130			
2-Hexanone (MBK)	3.22				5.00		64.4	*	70-130		L-03
Isopropanol	5.80				5.00		116	70-130			V-06
Methyl tert-Butyl Ether (MTBE)	5.28				5.00		106	70-130			
Methylene Chloride	4.31				5.00		86.2	70-130			
4-Methyl-2-pentanone (MIBK)	3.30				5.00		66.0	*	70-130		L-03
Naphthalene	3.26				5.00		65.2	*	70-130		L-03
Propene	4.67				5.00		93.4	70-130			
Styrene	5.23				5.00		105	70-130			
1,1,2,2-Tetrachloroethane	4.95				5.00		99.0	70-130			
Tetrachloroethylene	5.35				5.00		107	70-130			
Tetrahydrofuran	5.76				5.00		115	70-130			
Toluene	4.81				5.00		96.2	70-130			
1,2,4-Trichlorobenzene	4.34				5.00		86.8	70-130			
1,1,1-Trichloroethane	4.25				5.00		85.0	70-130			
1,1,2-Trichloroethane	5.14				5.00		103	70-130			
Trichloroethylene	4.57				5.00		91.4	70-130			
Trichlorofluoromethane (Freon 11)	5.42				5.00		108	70-130			
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	5.54				5.00		111	70-130			
1,2,4-Trimethylbenzene	5.08				5.00		102	70-130			
1,3,5-Trimethylbenzene	5.00				5.00		100	70-130			
Vinyl Acetate	3.01				5.00		60.2	*	70-130		L-03
Vinyl Chloride	4.46				5.00		89.2	70-130			
m&p-Xylene	9.68				10.0		96.8	70-130			
o-Xylene	4.82				5.00		96.4	70-130			
Surrogate: 4-Bromofluorobenzene (1)	7.78				8.00		97.2	70-130			

QUALITY CONTROL

Air Toxics by EPA Compendium Methods - Quality Control

Analyte	ppbv		ug/m3		Spike Level ppbv	Source Result	%REC Limits	RPD	RPD Limit	Flag/Qual
	Results	RL	Results	RL						

Batch B089331 - TO-15 Prep

Blank (B089331-BLK1)

Prepared & Analyzed: 01/23/14

Acetone	ND	0.80								
Surrogate: 4-Bromofluorobenzene (1)	5.85				8.00		73.2		70-130	

LCS (B089331-BS1)

Prepared & Analyzed: 01/23/14

Acetone	5.56				5.00		111		70-130	
Surrogate: 4-Bromofluorobenzene (1)	7.82				8.00		97.8		70-130	

FLAG/QUALIFIER SUMMARY

*	QC result is outside of established limits.
†	Wide recovery limits established for difficult compound.
‡	Wide RPD limits established for difficult compound.
#	Data exceeded client recommended or regulatory level
	Percent recoveries and relative percent differences (RPDs) are determined by the software using values in the calculation which have not been rounded.
	No results have been blank subtracted unless specified in the case narrative section.
L-03	Laboratory fortified blank/laboratory control sample recovery is outside of control limits. Reported value for this compound is likely to be biased on the low side.
V-06	Continuing calibration did not meet method specifications and was biased on the high side for this compound. Increased uncertainty is associated with the reported value which is likely to be biased on the high side.

INTERNAL STANDARD AREA AND RT SUMMARY

EPA TO-15

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
Calibration Check (S005346-CCV1)									
Lab File ID: B012202.D					Analyzed: 01/22/14 13:08				
Bromochloromethane (1)	318637	8.268	241397	8.28	132	60 - 140	-0.0120	+/-0.50	
1,4-Difluorobenzene (1)	750775	10.16	438709	10.172	171	60 - 140	-0.0120	+/-0.50	
Chlorobenzene-d5 (1)	663668	14.925	404360	14.947	164	60 - 140	-0.0220	+/-0.50	
LCS (B089272-BS1)									
Lab File ID: B012203.D					Analyzed: 01/22/14 13:47				
Bromochloromethane (1)	325960	8.268	318637	8.268	102	60 - 140	0.0000	+/-0.50	
1,4-Difluorobenzene (1)	772462	10.161	750775	10.16	103	60 - 140	0.0010	+/-0.50	
Chlorobenzene-d5 (1)	679389	14.926	663668	14.925	102	60 - 140	0.0010	+/-0.50	
Blank (B089272-BLK1)									
Lab File ID: B012210.D					Analyzed: 01/22/14 19:58				
Bromochloromethane (1)	302819	8.268	318637	8.268	95	60 - 140	0.0000	+/-0.50	
1,4-Difluorobenzene (1)	677532	10.161	750775	10.16	90	60 - 140	0.0010	+/-0.50	
Chlorobenzene-d5 (1)	583631	14.926	663668	14.925	88	60 - 140	0.0010	+/-0.50	
SG-1 (14A0624-01)									
Lab File ID: B012216.D					Analyzed: 01/23/14 00:29				
Bromochloromethane (1)	297946	8.28	318637	8.268	94	60 - 140	0.0120	+/-0.50	
1,4-Difluorobenzene (1)	684251	10.167	750775	10.16	91	60 - 140	0.0070	+/-0.50	
Chlorobenzene-d5 (1)	607646	14.932	663668	14.925	92	60 - 140	0.0070	+/-0.50	

INTERNAL STANDARD AREA AND RT SUMMARY

EPA TO-15

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
Calibration Check (S005348-CCV1)									
Lab File ID: B012302.D					Analyzed: 01/23/14 15:01				
Bromochloromethane (1)	317864	8.268	241397	8.28	132	60 - 140	-0.0120	+/-0.50	
1,4-Difluorobenzene (1)	744242	10.16	438709	10.172	170	60 - 140	-0.0120	+/-0.50	
Chlorobenzene-d5 (1)	655247	14.925	404360	14.947	162	60 - 140	-0.0220	+/-0.50	
LCS (B089331-BS1)									
Lab File ID: B012303.D					Analyzed: 01/23/14 15:40				
Bromochloromethane (1)	315588	8.269	317864	8.268	99	60 - 140	0.0010	+/-0.50	
1,4-Difluorobenzene (1)	737327	10.161	744242	10.16	99	60 - 140	0.0010	+/-0.50	
Chlorobenzene-d5 (1)	650691	14.926	655247	14.925	99	60 - 140	0.0010	+/-0.50	
Blank (B089331-BLK1)									
Lab File ID: B012307.D					Analyzed: 01/23/14 18:25				
Bromochloromethane (1)	301890	8.268	317864	8.268	95	60 - 140	0.0000	+/-0.50	
1,4-Difluorobenzene (1)	662122	10.161	744242	10.16	89	60 - 140	0.0010	+/-0.50	
Chlorobenzene-d5 (1)	558143	14.926	655247	14.925	85	60 - 140	0.0010	+/-0.50	
SG-1 (14A0624-01RE1)									
Lab File ID: B012335.D					Analyzed: 01/24/14 14:54				
Bromochloromethane (1)	288028	8.267	317864	8.268	91	60 - 140	-0.0010	+/-0.50	
1,4-Difluorobenzene (1)	696136	10.16	744242	10.16	94	60 - 140	0.0000	+/-0.50	
Chlorobenzene-d5 (1)	602330	14.925	655247	14.925	92	60 - 140	0.0000	+/-0.50	

CONTINUING CALIBRATION CHECK

EPA TO-15

S005346-CCV1

COMPOUND	TYPE	CONC. (ppbv)		RESPONSE FACTOR			% DIFF / DRIFT	
		STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)
Acetone	A	5.00	5.35	0.8283546	0.8863854		7.0	30
Benzene	A	5.00	4.20	0.9413509	0.7906582		-16.0	30
Benzyl chloride	A	5.00	5.07	0.9366321	0.9499039		1.4	30
Bromodichloromethane	A	5.00	4.72	0.6896837	0.651555		-5.5	30
Bromoform	A	5.00	5.41	0.6450373	0.697638		8.2	30
Bromomethane	A	5.00	4.60	0.6831357	0.6286677		-8.0	30
1,3-Butadiene	A	5.00	4.24	0.3631511	0.3079115		-15.2	30
2-Butanone (MEK)	A	5.00	4.16	1.545372	1.285892		-16.8	30
Carbon Disulfide	A	5.00	5.64	1.787941	2.017247		12.8	30
Carbon Tetrachloride	A	5.00	4.55	0.5349463	0.4871553		-8.9	30
Chlorobenzene	A	5.00	5.25	0.7508891	0.7879795		4.9	30
Chloroethane	A	5.00	4.98	0.2783443	0.2772208		-0.4	30
Chloroform	A	5.00	5.71	1.212155	1.383106		14.1	30
Chloromethane	A	5.00	4.18	0.5418058	0.4533108		-16.3	30
Cyclohexane	A	5.00	4.47	0.3674421	0.3283753		-10.6	30
Dibromochloromethane	A	5.00	5.04	0.7473385	0.7539408		0.9	30
1,2-Dibromoethane (EDB)	A	5.00	4.94	0.6600501	0.6514872		-1.3	30
1,2-Dichlorobenzene	A	5.00	5.92	0.6481301	0.7671981		18.4	30
1,3-Dichlorobenzene	A	5.00	5.75	0.7015668	0.806748		15.0	30
1,4-Dichlorobenzene	A	5.00	5.59	0.7096668	0.7940042		11.9	30
Dichlorodifluoromethane (Freon 12)	A	5.00	5.11	1.429498	1.460777		2.2	30
1,1-Dichloroethane	A	5.00	5.32	1.092829	1.161708		6.3	30
1,2-Dichloroethane	A	5.00	4.82	0.7865236	0.75833		-3.6	30
1,1-Dichloroethylene	A	5.00	5.02	0.9569238	0.9616561		0.5	30
cis-1,2-Dichloroethylene	A	5.00	5.30	0.8321314	0.8819013		6.0	30
trans-1,2-Dichloroethylene	A	5.00	5.14	0.8759026	0.9011835		2.9	30
1,2-Dichloropropane	A	5.00	4.12	0.360087	0.2966918		-17.6	30
cis-1,3-Dichloropropene	A	5.00	4.69	0.523818	0.4912939		-6.2	30
trans-1,3-Dichloropropene	A	5.00	4.76	0.4919749	0.4680518		-4.9	30
1,2-Dichloro-1,1,2,2-tetrafluoroethane (Freon 114)	A	5.00	4.29	1.685769	1.446335		-14.2	30
1,4-Dioxane	A	5.00	4.96	0.193588	0.191902		-0.9	30
Ethanol	A	5.00	5.29	0.1820862	0.192515		5.7	30
Ethyl Acetate	A	5.00	5.25	0.1888158	0.1983047		5.0	30
Ethylbenzene	A	5.00	4.93	1.243091	1.22602		-1.4	30
4-Ethyltoluene	A	5.00	5.21	1.17607	1.22624		4.3	30
Heptane	A	5.00	4.01	0.2781826	0.2231955		-19.8	30
Hexachlorobutadiene	A	5.00	6.26	0.3871347	0.4845821		25.2	30
Hexane	A	5.00	4.35	0.7062516	0.61393		-13.1	30

CONTINUING CALIBRATION CHECK

EPA TO-15

S005346-CCV1

COMPOUND	TYPE	CONC. (ppbv)		RESPONSE FACTOR			% DIFF / DRIFT	
		STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)
2-Hexanone (MBK)	A	5.00	3.78	0.9700782	0.7333353		-24.4	30
Isopropanol	A	5.00	6.74	0.8060302	1.087065		34.9	30 *
Methyl tert-Butyl Ether (MTBE)	A	5.00	5.27	1.499911	1.581672		5.5	30
Methylene Chloride	A	5.00	4.60	0.8355231	0.7694423		-7.9	30
4-Methyl-2-pentanone (MIBK)	A	5.00	3.66	0.9094714	0.6666221		-26.7	30
Naphthalene	A	5.00	5.03	1.246215	1.254439		0.7	30
Propene	A	5.00	4.76	0.4557526	0.4340287		-4.8	30
Styrene	A	5.00	5.35	0.6679813	0.7152468		7.1	30
1,1,2,2-Tetrachloroethane	A	5.00	5.30	0.9452754	1.002484		6.1	30
Tetrachloroethylene	A	5.00	5.38	0.4528223	0.4876077		7.7	30
Tetrahydrofuran	A	5.00	5.80	0.2562512	0.297216		16.0	30
Toluene	A	5.00	4.99	0.957834	0.9552367		-0.3	30
1,2,4-Trichlorobenzene	A	5.00	6.06	0.4479159	0.5424688		21.1	30
1,1,1-Trichloroethane	A	5.00	4.35	0.5392166	0.4687508		-13.1	30
1,1,2-Trichloroethane	A	5.00	5.23	0.3705677	0.3898889		5.2	30
Trichloroethylene	A	5.00	4.69	0.3742704	0.3509483		-6.2	30
Trichlorofluoromethane (Freon 11)	A	5.00	5.56	1.248934	1.38996		11.3	30
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	A	5.00	5.99	1.044253	1.251526		19.8	30
1,2,4-Trimethylbenzene	A	5.00	5.40	0.9274325	1.000908		7.9	30
1,3,5-Trimethylbenzene	A	5.00	5.24	0.9520193	0.9975204		4.8	30
Vinyl Acetate	A	5.00	4.32	1.995075	1.723777		-13.6	30
Vinyl Chloride	A	5.00	4.64	0.5783172	0.536922		-7.2	30
m&p-Xylene	A	10.0	9.87	1.013541	1.00037		-1.3	30
o-Xylene	A	5.00	4.92	0.9589857	0.9435417		-1.6	30

Column to be used to flag Response Factor and %Diff/Drift values with an asterisk

* Values outside of QC limits

CONTINUING CALIBRATION CHECK

EPA TO-15

S005348-CCV1

COMPOUND	TYPE	CONC. (ppbv)		RESPONSE FACTOR			% DIFF / DRIFT	
		STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)
Acetone	A	5.00	5.66	0.8283546	0.9372411		13.1	30

Column to be used to flag Response Factor and %Diff/Drift values with an asterisk

* Values outside of QC limits

CERTIFICATIONS

Certified Analyses included in this Report

Analyte	Certifications
<i>EPA TO-15 in Air</i>	
Acetone	AIHA,NY,ME
Benzene	AIHA,FL,NJ,NY,VA,ME
Benzyl chloride	AIHA,FL,NJ,NY,VA,ME
Bromodichloromethane	AIHA,NJ,NY,VA,ME
Bromoform	AIHA,NJ,NY,VA,ME
Bromomethane	AIHA,FL,NJ,NY,ME
1,3-Butadiene	AIHA,NJ,NY,VA,ME
2-Butanone (MEK)	AIHA,FL,NJ,NY,VA,ME
Carbon Disulfide	AIHA,NJ,NY,VA,ME
Carbon Tetrachloride	AIHA,FL,NJ,NY,VA,ME
Chlorobenzene	AIHA,FL,NJ,NY,VA,ME
Chloroethane	AIHA,FL,NJ,NY,VA,ME
Chloroform	AIHA,FL,NJ,NY,VA,ME
Chloromethane	AIHA,FL,NJ,NY,VA,ME
Cyclohexane	AIHA,NJ,NY,VA,ME
Dibromochloromethane	AIHA,NY,ME
1,2-Dibromoethane (EDB)	AIHA,NJ,NY,ME
1,2-Dichlorobenzene	AIHA,FL,NJ,NY,VA,ME
1,3-Dichlorobenzene	AIHA,NJ,NY,ME
1,4-Dichlorobenzene	AIHA,FL,NJ,NY,VA,ME
Dichlorodifluoromethane (Freon 12)	AIHA,NY,ME
1,1-Dichloroethane	AIHA,FL,NJ,NY,VA,ME
1,2-Dichloroethane	AIHA,FL,NJ,NY,VA,ME
1,1-Dichloroethylene	AIHA,FL,NJ,NY,VA,ME
cis-1,2-Dichloroethylene	AIHA,FL,NY,VA,ME
trans-1,2-Dichloroethylene	AIHA,NJ,NY,VA,ME
1,2-Dichloropropane	AIHA,FL,NJ,NY,VA,ME
cis-1,3-Dichloropropene	AIHA,FL,NJ,NY,VA,ME
trans-1,3-Dichloropropene	AIHA,NY,ME
1,2-Dichloro-1,1,2,2-tetrafluoroethane (Freon 114)	AIHA,NJ,NY,VA,ME
1,4-Dioxane	AIHA,NJ,NY,VA,ME
Ethanol	AIHA
Ethyl Acetate	AIHA
Ethylbenzene	AIHA,FL,NJ,NY,VA,ME
4-Ethyltoluene	AIHA,NJ
Heptane	AIHA,NJ,NY,VA,ME
Hexachlorobutadiene	AIHA,NJ,NY,VA,ME
Hexane	AIHA,FL,NJ,NY,VA,ME
2-Hexanone (MBK)	AIHA
Isopropanol	AIHA,NY,ME
Methyl tert-Butyl Ether (MTBE)	AIHA,FL,NJ,NY,VA,ME
Methylene Chloride	AIHA,FL,NJ,NY,VA,ME
4-Methyl-2-pentanone (MIBK)	AIHA,FL,NJ,NY,ME
Naphthalene	NY,ME
Propene	AIHA
Styrene	AIHA,FL,NJ,NY,VA,ME
1,1,2,2-Tetrachloroethane	AIHA,FL,NJ,NY,VA,ME

CERTIFICATIONS

Certified Analyses included in this Report

Analyte	Certifications
EPA TO-15 in Air	
Tetrachloroethylene	AIHA,FL,NJ,NY,VA,ME
Tetrahydrofuran	AIHA
Toluene	AIHA,FL,NJ,NY,VA,ME
1,2,4-Trichlorobenzene	AIHA,NJ,NY,VA,ME
1,1,1-Trichloroethane	AIHA,FL,NJ,NY,VA,ME
1,1,2-Trichloroethane	AIHA,FL,NJ,NY,VA,ME
Trichloroethylene	AIHA,FL,NJ,NY,VA,ME
Trichlorofluoromethane (Freon 11)	AIHA,NY,ME
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	AIHA,NJ,NY,VA,ME
1,2,4-Trimethylbenzene	AIHA,NJ,NY,ME
1,3,5-Trimethylbenzene	AIHA,NJ,NY,ME
Vinyl Acetate	AIHA,FL,NJ,NY,VA,ME
Vinyl Chloride	AIHA,FL,NJ,NY,VA,ME
m&p-Xylene	AIHA,FL,NJ,NY,VA,ME
o-Xylene	AIHA,FL,NJ,NY,VA,ME

The CON-TEST Environmental Laboratory operates under the following certifications and accreditations:

Code	Description	Number	Expires
AIHA	AIHA-LAP, LLC	100033	02/1/2016
MA	Massachusetts DEP	M-MA100	06/30/2014
CT	Connecticut Department of Public Health	PH-0567	09/30/2015
NY	New York State Department of Health	10899 NELAP	04/1/2014
NH-S	New Hampshire Environmental Lab	2516 NELAP	02/5/2014
RI	Rhode Island Department of Health	LAO00112	12/30/2014
NC	North Carolina Div. of Water Quality	652	12/31/2014
NJ	New Jersey DEP	MA007 NELAP	06/30/2014
FL	Florida Department of Health	E871027 NELAP	06/30/2014
VT	Vermont Department of Health Lead Laboratory	LL015036	07/30/2014
WA	State of Washington Department of Ecology	C2065	02/23/2014
ME	State of Maine	2011028	06/9/2015
VA	Commonwealth of Virginia	460217	12/14/2014
NH-P	New Hampshire Environmental Lab	2557 NELAP	09/6/2014



Phone: 413-525-2332
Fax: 413-525-6405

AIR SAMPLE CHAIN OF CUSTODY

39 SPRUCE ST
EAST LONGMEADOW MA 01028

2

www.conferencesibb.com

Company Name:

Address:

Attention:

Project Location:

Sampled By:

Proposal Provided? (For Billing purposes)

	☐ yes	☐ no	proposal date
1. The proposed project is feasible.			
2. The proposed project is economically viable.			
3. The proposed project is socially beneficial.			
4. The proposed project is environmentally sound.			
5. The proposed project is technically feasible.			
6. The proposed project is financially viable.			
7. The proposed project is legally compliant.			
8. The proposed project is politically acceptable.			
9. The proposed project is culturally sensitive.			
10. The proposed project is sustainable.			

DATA DELIVERY (check one):	
☐ FAX	☒ EMAIL
☐ WEBSITE CLIENT	
Fax #: _____	
Email: <u>mschmidt@fcsolutions.com</u>	
Format: ☒ EXCEL ☐ PDF ☐ GIS KEY ☐ OTHER _____	
Date Sampled	ONLY USE WHEN USING PUMPS

ANALYSIS REQUESTED		"Hg		Please fill out completely, sign, date and retain the yellow copy for your record.
1	1	1	1	
2	2	2	2	Summa canisters and flow controllers must be returned within 14 days of receipt or rental fee will apply.
3	3	3	3	Summa canisters will be retained for a minimum of 14 days after sampling date prior to cleaning.

[illegible]

CLIENT COMMENTS:

⊕ Data enhancement per David (the joining)

Reinquished by: (signature)

Received by: Signature

Chrisch (Singapore)

Received by: (signature)

Turnaround

Special Requirements

***Matrix Code:**

Media Codes:

7-Day

Regulations: _____

10-Day

Data Enhancement/RCP? ☒ Y ☐ N

☒ Other:Enhanced Data Package ☒ Y ☐ N

(Surcharge Applies)

24-Hr ☐ 48-Hr ☒

Required Detection Limits: _____

*72-Hr ☐ *4-Day

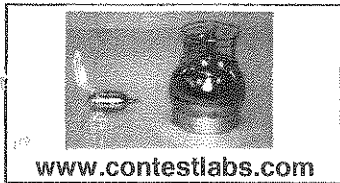
Other:

Approval Required

TURNAROUND TIME STARTS AT 9:00 A.M. THE DAY AFTER SAMPLE RECEIPT UNLESS THERE ARE QUESTIONS ON YOUR CHAIN. IF THIS FORM IS NOT FILLED OUT COMPLETELY OR

INCORRECT, TURNAROUND TIME WILL NOT START UNTIL ALL QUESTIONS ARE ANSWERED BY OUR CLIENT.

AHA/NEAC & WBE/BE Certified



39 Spruce St.
East Longmeadow, MA.
01028
P: 413-525-2332
F: 413-525-6405

AIR Only Receipt Checklist

CLIENT NAME: TRC RECEIVED BY: RLT DATE: 1/21/14

1) Was the chain(s) of custody relinquished and signed? ☒ Yes ☐ No

2) Does the chain agree with the samples? ☒ Yes ☐ No

If not, explain:

3) Are all the samples in good condition? ☒ Yes ☐ No

If not, explain:

4) Are there any samples "On Hold"?

Yes ☒ No ☐ Stored where:

5) Are there any RUSH or SHORT HOLDING TIME samples?

Yes ☐ No ☒

Who was notified _____ Date _____ Time _____

6) Location where samples are stored:

Air Lab

Permission to subcontract samples? Yes ☐ No ☐
(Walk-in clients only) if not already approved
Client Signature: _____

7) Temperature °C by Temp blank _____

Temperature °C by Temp gun _____

Containers received at Con-Test

	# of Containers	Types (Size, Duration)
Summa Cans (TO-14/TO-15/APH)	1	6L
Tedlar Bags		
TO-17 Tubes		
Regulators	1	30 min
Restrictors		
Hg/Hopcalite Tube (NIOSH 6009)		
(TO-4A/ TO-10A/TO-13) PUFs		
PCB Florisil Tubes (NIOSH 5503)		
Air cassette		
PM 2.5/PM 10		
TO-11A Cartridges		
Other		

Unused Summas/PUF Media:

Unused Regulators:

1) Was all media (used & unused) checked into the WASP?

2) Were all returned summa cans, Restrictors & Regulators and PUF's documented as returned in the Air Lab Inbound/Outbound Excel Spreadsheet?

Laboratory Comments:

1291

4039

Login Sample Receipt Checklist(Rejection Criteria Listing - Using Sample Acceptance Policy)Any False statement will be brought to the attention of Client

<u>Question</u>	<u>Answer (True/False)</u>	<u>Comment</u>
	<u>T/F/NA</u>	
1) The cooler's custody seal, if present, is intact.	T	
2) The cooler or samples do not appear to have been compromised or tampered with.	T	
3) Samples were received on ice.	NA	
4) Cooler Temperature is acceptable.	NA	
5) Cooler Temperature is recorded.	NA	
6) COC is filled out in ink and legible.	T	
7) COC is filled out with all pertinent information.	T	
8) Field Sampler's name present on COC.	T	
9) There are no discrepancies between the sample IDs on the container and the COC.	T	
10) Samples are received within Holding Time.	T	
11) Sample containers have legible labels.	T	
12) Containers are not broken or leaking.	T	
13) Air Cassettes are not broken/open.	NA	
14) Sample collection date/times are provided.	T	
15) Appropriate sample containers are used.	T	
16) Proper collection media used.	T	
17) No headspace sample bottles are completely filled.	T	
18) There is sufficient volume for all requested analyses, including any requested MS/MSDs.	T	
19) Trip blanks provided if applicable.	NA	
20) VOA sample vials do not have head space or bubble is <6mm (1/4") in diameter.	NA	
21) Samples do not require splitting or compositing.	T	

Doc #278 Rev. 3 August 2013

Who notified of False statements?

Log-In Technician Initials:

Date/Time:

Date/Time:

RLF 1/21/14 1700



Air Sampling Media Certificate of Analysis

Date Analyzed: 1/10/2014 Batch #: 14CC014

Certification Type: Batch Certified ☒ Individual Certified ☐

Media Type: Summa Canister ☒ Flow Controllers ☐

Media IDs: BC1291 _____

Note: Two ID's grouped together, for example BC2136/BC3145, represents matched pairs of certified summa canisters and flow controllers.

Units: PPBv

<0.80	Propene	<0.04	Vinyl acetate	<0.02	Dibromchloromethane
<0.02	Dichlorodifluoromethane	<0.80	Hexane	<0.02	1,2-Dibromomethane
<0.04	Chloromethane	<0.02	Ethyl acetate	<0.02	Tetrachloroethylene
<0.02	Freon 114	<0.02	Chloroform	<0.02	Chlorobenzene
<0.02	Vinyl chloride	<0.02	Tetrahydrofuran	<0.02	Ethylbenzene
<0.02	1,3-Butadiene	<0.02	1,2-Dichloroethane	<0.04	m,p-Xylenes
<0.02	Bromomethane	<0.02	1,1,1-Trichloroethane	<0.02	Bromoform
<0.02	Chloroethane	<0.02	Benzene	<0.02	Styrene
<0.08	Acrolein	<0.02	Carbon Tetrachloride	<0.02	o-Xylene
<0.80	Acetone	<0.02	Cyclohexane	<0.02	1,1,2,2-Tetrachloroethane
<0.02	Trichlorofluoromethane	<0.02	1,2-Dichloropropane	<0.02	4-Ethyltoluene
<0.80	Ethanol	<0.02	Bromodichloromethane	<0.02	1,3,5-Trimethylbenzene
<0.02	1,1-Dichloroethylene	<0.02	Trichloroethylene	<0.02	1,2,4-Trimethylbenzene
<0.20	Methylene chloride	<0.02	1,4-Dioxane	<0.02	1,3-Dichlorobenzene
<0.02	Freon 113	<0.02	Methylmethacrylate	<0.02	Benzyl chloride
<0.02	Carbon disulfide	<0.02	Heptane	<0.02	1,4-Dichlorobenzene
<0.02	t-1,2-Dichloroethylene	<0.02	MIBK	<0.02	1,2-Dichlorobenzene
<0.02	1,1-Dichloroethane	<0.02	c-1,3-Dichloropropylene	<0.04	1,2,4-Trichlorobenzene
<0.02	MTBE	<0.02	t-1,3-Dichloropropylene	<0.02	Naphthalene
<0.80	IPA	<0.02	1,1,2-Trichloroethylene	<0.02	Hexachlorobutadiene
<0.80	2-Butanone (MEK)	<0.02	Toluene		
<0.02	c-1,2-Dichloroethylene	<0.02	2-Hexanone (MBK)		

Special Notes: _____

Analyst Initials/Date: TPH 1/23/14

MADEP MCP Analytical Method Report Certification Form

Laboratory Name: Con-Test Analytical Laboratory

Project #: 14A0624

Project Location: 163 Glen St., Somerville, MA

RTN:

This Form provides certifications for the following data set: [list Laboratory Sample ID Number(s)]

14A0624-01

Matrices: Air

CAM Protocol (check all that below)

8260 VOC CAM II A ()	7470/7471 Hg CAM IIIB ()	MassDEP VPH CAM IV A ()	8081 Pesticides CAM V B ()	7196 Hex Cr CAM VI B ()	MassDEP APH CAM IX A ()
8270 SVOC CAM II B ()	7010 Metals CAM III C ()	MassDEP EPH CAM IV A ()	8151 Herbicides CAM V C ()	8330 Explosives CAM VIII A ()	TO-15 VOC CAM IX B (X)
6010 Metals CAM III A ()	6020 Metals CAM III D ()	8082 PCB CAM V A ()	9014 Total Cyanide/PAC CAM VI A ()	6860 Perchlorate CAM VIII B ()	

Affirmative response to Questions A through F is required for "Presumptive Certainty" status

A	Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times?	☒ Yes ☐ No ¹
B	Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed?	☒ Yes ☐ No ¹
C	Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances?	☒ Yes ☐ No ¹
D	Does the laboratory report comply with all the reporting requirements specified in CAM VII A, Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data?	☒ Yes ☐ No ¹
E a	VPH, EPH, and APH Methods only: Was each method conducted without significant modification(s)? (Refer to the individual method(s) for a list of significant modifications).	☐ Yes ☐ No ¹
E b	APH and TO-15 Methods only: Was the complete analyte list reported for each method?	☒ Yes ☐ No ¹
F	Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all No responses to Questions A through E)?	☒ Yes ☐ No ¹

A response to questions G, H and I below is required for "Presumptive Certainty" status

G	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)?	☐ Yes ☒ No ¹
----------	---	--

Data User Note: Data that achieve "Presumptive Certainty" status may not necessarily meet the data usability and representativeness requirements described in 310 CMR 40. 1056 (2)(k) and WSC-07-350.

H	Were all QC performance standards specified in the CAM protocol(s) achieved?	☐ Yes ☒ No ¹
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?	☒ Yes ☐ No ¹

¹ All Negative responses must be addressed in an attached Environmental Laboratory case narrative.

I, the undersigned, attest under the pains and penalties of perjury that, based upon my personal inquiry of those responsible for obtaining the information, the material contained in this analytical report is, to the best of my knowledge and belief, accurate and complete.

Signature: 

Position: Laboratory Director

Printed Name: Michael A. Erickson

Date: 01/28/14

APPENDIX C

DATA USABILITY ASSESSMENT

**163 Glen Street
Somerville, MA
Data Usability Assessment
Prepared: 2/3/14**

A. Overall Summary

The data associated with soil samples collected on January 20, 2014, groundwater samples collected on January 21, 2014 and one soil gas sample collected on January 20, 2014 were reviewed. In general, the data are usable for MCP decisions based on a review of accuracy, precision, and sensitivity of the data. Although there were select quality control (QC) nonconformances, the data are valid as reported and may be used for decision-making purposes with the following caution.

- Caution should be used with the vinyl chloride results in all groundwater samples due to low recoveries in the LCS and LCS Duplicate analyses. The nondetect results for vinyl chloride in these samples are equivalent to the project action level and therefore the decision-making process may be affected by the low bias. Caution should be used with these results as the actual results could be above the quantitation limits and thus above the project action levels.

Soil Samples Included in the Data Usability Assessment: TRC-1 (0-8/11), TRC-2 (0-8/11), TRC-3 (0-8/10), TRC-4 (0-8/8)

Groundwater Samples Included in the Data Usability Assessment: TRC-1, TRC-2, TRC-3, TRC-4

Soil Gas Samples Included in the Data Usability Assessment: SG-1

Field Duplicates: TRC-3 (0-8/10): VOCs, EPH, PAHs, metals; TRC-3: VOCs, EPH, PAHs, total metals

MS/DUPS: TRC-1 (0-8/11): VOCs, TRC-2 (0-8/11): PAHs, metals, TRC-2 (total metals)

Soil Analyses Performed: VOCs, EPH, PAHs, metals

Groundwater Analyses Performed: VOCs, EPH, PAHs, total metals

Soil Gas Analyses Performed: VOCs

Laboratory Data Packages: 14A0592, 14A0607, 14A0624 (Con-test Analytical)

B. Sensitivity Evaluation

Sensitivity was acceptable for all analyses of soil samples (nondetect results exhibited quantitation limits [QLs] below the MCP Method 1 S-1/GW-2, S-1/GW-3, S-2/GW-2, and S-2/GW-3 standards).

Sensitivity was acceptable for all analyses of groundwater samples (nondetect results exhibited QLs below the MCP Method 1 GW-2 and GW-3 standards).

Sensitivity was acceptable for all analyses of soil gas samples (nondetect results exhibited QLs below the MassDEP Residential and Commercial/Industrial Sub-slab Soil Gas Screening Values).

C. Evaluation of Accuracy and Precision: Soil

There were no biases or uncertainty associated with the EPH and PAH analyses of the soil samples. Biases or uncertainty associated with the VOC and metals analyses are discussed below.

C-1. Low-Biased Results: Soil

Potential low bias exists for select results due to various QC nonconformances. In general, the overall data usability and decision-making process were not affected by these QC nonconformances, as shown in the table below.

Samples Affected	Analytes Affected	Reason for Low Bias	Reason Data Usability or Decision-making Process Not Affected
All soil samples	Bromomethane, chloromethane, dichlorodifluoromethane	Low recoveries in LCS, LCS Duplicate, and/or MS	Project action levels do not exist for chloromethane and dichlorodifluoromethane. Nondetect results for bromomethane significantly below project action levels in affected samples.
All soil samples	Antimony	Low recovery in MS	Nondetect results for antimony significantly below project action levels in affected samples.

C-2. High-Biased Results: Soil

Potential high bias exists for lead in all soil samples due to high recovery in the MS analysis. The overall data usability and decision-making process were not adversely affected since the results for lead were either significantly above the project action levels or below the project action levels in all soil samples.

D. Evaluation of Accuracy and Precision: Groundwater

There were no biases or uncertainty associated with the EPH, PAH and total metals analyses of the groundwater samples. Biases or uncertainty associated with the VOC analyses are discussed below.

D-1. Low-Biased Results: Groundwater

Potential low bias exists for vinyl chloride in all groundwater samples due to low recoveries in the LCS and LCS Duplicate analyses. The nondetect results for vinyl chloride in these samples should be used with caution due to this low bias. The quantitation limits for the nondetect results are equivalent to the project action levels and therefore the potential low bias could affect the decision-making process as the results could be above this quantitation limit if the low bias did not exist. In general, the overall data usability and decision-making process were not affected by the remaining QC nonconformances, as shown in the table below.

Samples Affected	Analytes Affected	Reason for Low Bias	Reason Data Usability or Decision-making Process Not Affected
All groundwater samples	Dichlorodifluoromethane, naphthalene, 1,2,3-trichlorobenzene	Low recoveries in LCS and/or LCS Duplicate	Project action levels do not exist for 1,2,3-trichlorobenzene and dichlorodifluoromethane. Results for naphthalene significantly below project action levels in affected samples.

D-2. High-Biased Results: Groundwater

Potential high bias exists for methylene chloride in all groundwater samples due to high recoveries in the LCS and LCS Duplicate analyses. The overall data usability and decision-making process were not adversely affected since methylene chloride was not detected in any of the groundwater samples.

E. Evaluation of Accuracy and Precision: Soil Gas

Biases or uncertainty associated with the VOC analyses of the soil gas samples are discussed below.

E-1. Low-Biased Results: Soil Gas

Potential low bias exists for select results due to various QC nonconformances. In general, the overall data usability and decision-making process were not affected by these QC nonconformances, as shown in the table below.

Samples Affected	Analytes Affected	Reason for Low Bias	Reason Data Usability or Decision-making Process Not Affected
SG-1	4-Methyl-2-pentanone, naphthalene	Low recoveries in LCS	Results for 4-methyl-2-pentanone and naphthalene significantly below project action levels in sample SG-1.

RTN 3-23246
Partial Permanent Solution Statement
for 152 – 154 Glen Street, Somerville, Massachusetts
50 Tufts Street Site, Somerville, Massachusetts
UniFirst Corporation
December 1, 2023

Appendix D

Groundwater Laboratory Report



ANALYTICAL REPORT

Lab Number:	L2354341
Client:	GEI Consultants 400 Unicorn Park Drive Woburn, MA 01801
ATTN:	Chris Coner
Phone:	(781) 721-4000
Project Name:	TUFTS STREET
Project Number:	045163
Report Date:	09/27/23

The original project report/data package is held by Alpha Analytical. This report/data package is paginated and should be reproduced only in its entirety. Alpha Analytical holds no responsibility for results and/or data that are not consistent with the original.

Certifications & Approvals: MA (M-MA086), NH NELAP (2064), CT (PH-0826), IL (200077), IN (C-MA-03), KY (KY98045), ME (MA00086), MD (348), NJ (MA935), NY (11148), NC (25700/666), OH (CL108), OR (MA-1316), PA (68-03671), RI (LAO00065), TX (T104704476), VT (VT-0935), VA (460195), USDA (Permit #525-23-122-91930).

Eight Walkup Drive, Westborough, MA 01581-1019
508-898-9220 (Fax) 508-898-9193 800-624-9220 - www.alphalab.com



Project Name: TUFTS STREET
Project Number: 045163

Lab Number: L2354341
Report Date: 09/27/23

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L2354341-01	045163-MW108	WATER	SOMERVILLE, MA	09/15/23 11:31	09/18/23

Project Name: TUFTS STREET

Lab Number: L2354341

Project Number: 045163

Report Date: 09/27/23

MADEP MCP Response Action Analytical Report Certification

This form provides certifications for all samples performed by MCP methods. Please refer to the Sample Results and Container Information sections of this report for specification of MCP methods used for each analysis. The following questions pertain only to MCP Analytical Methods.

An affirmative response to questions A through F is required for "Presumptive Certainty" status		
A	Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times?	YES
B	Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed?	YES
C	Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances?	YES
D	Does the laboratory report comply with all the reporting requirements specified in CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data?"	YES
E a.	VPH, EPH, and APH Methods only: Was each method conducted without significant modification(s)? (Refer to the individual method(s) for a list of significant modifications).	N/A
E b.	APH and TO-15 Methods only: Was the complete analyte list reported for each method?	N/A
F	Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to Questions A through E)?	YES
A response to questions G, H and I is required for "Presumptive Certainty" status		
G	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)?	YES
H	Were all QC performance standards specified in the CAM protocol(s) achieved?	NO
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?	YES
For any questions answered "No", please refer to the case narrative section on the following page(s).		

Please note that sample matrix information is located in the Sample Results section of this report.



Project Name: TUFTS STREET
Project Number: 045163

Lab Number: L2354341
Report Date: 09/27/23

Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet NELAP requirements for all NELAP accredited parameters unless otherwise noted in the following narrative. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. Tentatively Identified Compounds (TICs), if requested, are reported for compounds identified to be present and are not part of the method/program Target Compound List, even if only a subset of the TCL are being reported. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively.

When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances, the specific failure is not narrated but noted in the associated QC Outlier Summary Report, located directly after the Case Narrative. QC information is also incorporated in the Data Usability Assessment table (Format 11) of our Data Merger tool, where it can be reviewed in conjunction with the sample result, associated regulatory criteria and any associated data usability implications.

Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

HOLD POLICY - For samples submitted on hold, Alpha's policy is to hold samples (with the exception of Air canisters) free of charge for 21 calendar days from the date the project is completed. After 21 calendar days, we will dispose of all samples submitted including those put on hold unless you have contacted your Alpha Project Manager and made arrangements for Alpha to continue to hold the samples. Air canisters will be disposed after 3 business days from the date the project is completed.

Please contact Project Management at 800-624-9220 with any questions.

Project Name: TUFTS STREET
Project Number: 045163

Lab Number: L2354341
Report Date: 09/27/23

Case Narrative (continued)

MCP Related Narratives

Volatile Organics

L2354341-01: Initial calibration utilized a quadratic fit for: bromoform

In reference to question H:

L2354341-01: Initial Calibration did not meet:

Lowest Calibration Standard Minimum Response Factor: 1,4-dioxane (0.0036)

Average Response Factor: 1,4-dioxane

L2354341-01: The associated continuing calibration standard is outside the acceptance criteria for several compounds; however, it is within overall method allowances. Associated results are considered to be biased high if the %D is negative and biased low if the %D is positive. A copy of the continuing calibration standard is included as an addendum to this report.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature:

Melissa Sturgis Melissa Sturgis

Title: Technical Director/Representative

Date: 09/27/23

QC OUTLIER SUMMARY REPORT

Project Name: TUFTS STREET**Lab Number:** L2354341**Project Number:** 045163**Report Date:** 09/27/23

Method	Client ID (Native ID)	Lab ID	Parameter	QC Type	Recovery/RPD (%)	QC Limits (%)	Associated Samples	Data Quality Assessment
MCP Volatile Organics - Westborough Lab								
8260D	Batch QC	WG1832480-3	Bromomethane	LCS	69	70-130	01	potential low bias

ORGANICS

VOLATILES

Project Name: TUFTS STREET**Lab Number:** L2354341**Project Number:** 045163**Report Date:** 09/27/23**SAMPLE RESULTS**

Lab ID: L2354341-01
 Client ID: 045163-MW108
 Sample Location: SOMERVILLE, MA

Date Collected: 09/15/23 11:31
 Date Received: 09/18/23
 Field Prep: Not Specified

Sample Depth:

Matrix: Water
 Analytical Method: 141,8260D
 Analytical Date: 09/26/23 20:29
 Analyst: MCM

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics - Westborough Lab						
Methylene chloride	ND		ug/l	2.0	--	1
1,1-Dichloroethane	ND		ug/l	1.0	--	1
Chloroform	ND		ug/l	1.0	--	1
Carbon tetrachloride	ND		ug/l	1.0	--	1
1,2-Dichloropropane	ND		ug/l	1.0	--	1
Dibromochloromethane	ND		ug/l	1.0	--	1
1,1,2-Trichloroethane	ND		ug/l	1.0	--	1
Tetrachloroethene	ND		ug/l	1.0	--	1
Chlorobenzene	ND		ug/l	1.0	--	1
Trichlorofluoromethane	ND		ug/l	2.0	--	1
1,2-Dichloroethane	ND		ug/l	1.0	--	1
1,1,1-Trichloroethane	ND		ug/l	1.0	--	1
Bromodichloromethane	ND		ug/l	1.0	--	1
trans-1,3-Dichloropropene	ND		ug/l	0.40	--	1
cis-1,3-Dichloropropene	ND		ug/l	0.40	--	1
1,3-Dichloropropene, Total	ND		ug/l	0.40	--	1
1,1-Dichloropropene	ND		ug/l	2.0	--	1
Bromoform	ND		ug/l	2.0	--	1
1,1,2,2-Tetrachloroethane	ND		ug/l	1.0	--	1
Benzene	ND		ug/l	0.50	--	1
Toluene	ND		ug/l	1.0	--	1
Ethylbenzene	ND		ug/l	1.0	--	1
Chloromethane	ND		ug/l	2.0	--	1
Bromomethane	ND		ug/l	2.0	--	1
Vinyl chloride	ND		ug/l	1.0	--	1
Chloroethane	ND		ug/l	2.0	--	1
1,1-Dichloroethene	ND		ug/l	1.0	--	1
trans-1,2-Dichloroethene	ND		ug/l	1.0	--	1

Project Name: TUFTS STREET

Lab Number: L2354341

Project Number: 045163

Report Date: 09/27/23

SAMPLE RESULTS

Lab ID: L2354341-01
 Client ID: 045163-MW108
 Sample Location: SOMERVILLE, MA

Date Collected: 09/15/23 11:31
 Date Received: 09/18/23
 Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics - Westborough Lab						
Trichloroethene	ND		ug/l	1.0	--	1
1,2-Dichlorobenzene	ND		ug/l	1.0	--	1
1,3-Dichlorobenzene	ND		ug/l	1.0	--	1
1,4-Dichlorobenzene	ND		ug/l	1.0	--	1
Methyl tert butyl ether	ND		ug/l	2.0	--	1
p/m-Xylene	ND		ug/l	2.0	--	1
o-Xylene	ND		ug/l	1.0	--	1
Xylenes, Total	ND		ug/l	1.0	--	1
cis-1,2-Dichloroethene	ND		ug/l	1.0	--	1
1,2-Dichloroethene, Total	ND		ug/l	1.0	--	1
Dibromomethane	ND		ug/l	2.0	--	1
1,2,3-Trichloropropane	ND		ug/l	2.0	--	1
Styrene	ND		ug/l	1.0	--	1
Dichlorodifluoromethane	ND		ug/l	2.0	--	1
Acetone	ND		ug/l	5.0	--	1
Carbon disulfide	ND		ug/l	2.0	--	1
Methyl ethyl ketone	ND		ug/l	5.0	--	1
Methyl isobutyl ketone	ND		ug/l	5.0	--	1
2-Hexanone	ND		ug/l	5.0	--	1
Bromochloromethane	ND		ug/l	2.0	--	1
Tetrahydrofuran	ND		ug/l	2.0	--	1
2,2-Dichloropropane	ND		ug/l	2.0	--	1
1,2-Dibromoethane	ND		ug/l	2.0	--	1
1,3-Dichloropropane	ND		ug/l	2.0	--	1
1,1,1,2-Tetrachloroethane	ND		ug/l	1.0	--	1
Bromobenzene	ND		ug/l	2.0	--	1
n-Butylbenzene	ND		ug/l	2.0	--	1
sec-Butylbenzene	ND		ug/l	2.0	--	1
tert-Butylbenzene	ND		ug/l	2.0	--	1
o-Chlorotoluene	ND		ug/l	2.0	--	1
p-Chlorotoluene	ND		ug/l	2.0	--	1
1,2-Dibromo-3-chloropropane	ND		ug/l	2.0	--	1
Hexachlorobutadiene	ND		ug/l	0.60	--	1
Isopropylbenzene	ND		ug/l	2.0	--	1
p-Isopropyltoluene	ND		ug/l	2.0	--	1
Naphthalene	ND		ug/l	2.0	--	1
n-Propylbenzene	ND		ug/l	2.0	--	1

Project Name: TUFTS STREET

Lab Number: L2354341

Project Number: 045163

Report Date: 09/27/23

SAMPLE RESULTS

Lab ID: L2354341-01
 Client ID: 045163-MW108
 Sample Location: SOMERVILLE, MA

Date Collected: 09/15/23 11:31
 Date Received: 09/18/23
 Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics - Westborough Lab						
1,2,3-Trichlorobenzene	ND		ug/l	2.0	--	1
1,2,4-Trichlorobenzene	ND		ug/l	2.0	--	1
1,3,5-Trimethylbenzene	ND		ug/l	2.0	--	1
1,2,4-Trimethylbenzene	ND		ug/l	2.0	--	1
Diethyl ether	ND		ug/l	2.0	--	1
Diisopropyl Ether	ND		ug/l	2.0	--	1
Ethyl-Tert-Butyl-Ether	ND		ug/l	2.0	--	1
Tertiary-Amyl Methyl Ether	ND		ug/l	2.0	--	1
1,4-Dioxane	ND		ug/l	250	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	107		70-130
Toluene-d8	101		70-130
4-Bromofluorobenzene	101		70-130
Dibromofluoromethane	109		70-130

Project Name: TUFTS STREET
Project Number: 045163

Lab Number: L2354341
Report Date: 09/27/23

Method Blank Analysis
Batch Quality Control

Analytical Method: 141,8260D
 Analytical Date: 09/26/23 12:45
 Analyst: MCM

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics - Westborough Lab for sample(s): 01 Batch: WG1832480-5					
Methylene chloride	ND		ug/l	2.0	--
1,1-Dichloroethane	ND		ug/l	1.0	--
Chloroform	ND		ug/l	1.0	--
Carbon tetrachloride	ND		ug/l	1.0	--
1,2-Dichloropropane	ND		ug/l	1.0	--
Dibromochloromethane	ND		ug/l	1.0	--
1,1,2-Trichloroethane	ND		ug/l	1.0	--
Tetrachloroethene	ND		ug/l	1.0	--
Chlorobenzene	ND		ug/l	1.0	--
Trichlorofluoromethane	ND		ug/l	2.0	--
1,2-Dichloroethane	ND		ug/l	1.0	--
1,1,1-Trichloroethane	ND		ug/l	1.0	--
Bromodichloromethane	ND		ug/l	1.0	--
trans-1,3-Dichloropropene	ND		ug/l	0.40	--
cis-1,3-Dichloropropene	ND		ug/l	0.40	--
1,3-Dichloropropene, Total	ND		ug/l	0.40	--
1,1-Dichloropropene	ND		ug/l	2.0	--
Bromoform	ND		ug/l	2.0	--
1,1,2,2-Tetrachloroethane	ND		ug/l	1.0	--
Benzene	ND		ug/l	0.50	--
Toluene	ND		ug/l	1.0	--
Ethylbenzene	ND		ug/l	1.0	--
Chloromethane	ND		ug/l	2.0	--
Bromomethane	ND		ug/l	2.0	--
Vinyl chloride	ND		ug/l	1.0	--
Chloroethane	ND		ug/l	2.0	--
1,1-Dichloroethene	ND		ug/l	1.0	--
trans-1,2-Dichloroethene	ND		ug/l	1.0	--
Trichloroethene	ND		ug/l	1.0	--

Project Name: TUFTS STREET
Project Number: 045163

Lab Number: L2354341
Report Date: 09/27/23

Method Blank Analysis
Batch Quality Control

Analytical Method: 141,8260D
 Analytical Date: 09/26/23 12:45
 Analyst: MCM

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics - Westborough Lab for sample(s): 01 Batch: WG1832480-5					
1,2-Dichlorobenzene	ND		ug/l	1.0	--
1,3-Dichlorobenzene	ND		ug/l	1.0	--
1,4-Dichlorobenzene	ND		ug/l	1.0	--
Methyl tert butyl ether	ND		ug/l	2.0	--
p/m-Xylene	ND		ug/l	2.0	--
o-Xylene	ND		ug/l	1.0	--
Xylenes, Total	ND		ug/l	1.0	--
cis-1,2-Dichloroethene	ND		ug/l	1.0	--
1,2-Dichloroethene, Total	ND		ug/l	1.0	--
Dibromomethane	ND		ug/l	2.0	--
1,2,3-Trichloropropane	ND		ug/l	2.0	--
Styrene	ND		ug/l	1.0	--
Dichlorodifluoromethane	ND		ug/l	2.0	--
Acetone	ND		ug/l	5.0	--
Carbon disulfide	ND		ug/l	2.0	--
Methyl ethyl ketone	ND		ug/l	5.0	--
Methyl isobutyl ketone	ND		ug/l	5.0	--
2-Hexanone	ND		ug/l	5.0	--
Bromochloromethane	ND		ug/l	2.0	--
Tetrahydrofuran	ND		ug/l	2.0	--
2,2-Dichloropropane	ND		ug/l	2.0	--
1,2-Dibromoethane	ND		ug/l	2.0	--
1,3-Dichloropropane	ND		ug/l	2.0	--
1,1,1,2-Tetrachloroethane	ND		ug/l	1.0	--
Bromobenzene	ND		ug/l	2.0	--
n-Butylbenzene	ND		ug/l	2.0	--
sec-Butylbenzene	ND		ug/l	2.0	--
tert-Butylbenzene	ND		ug/l	2.0	--
o-Chlorotoluene	ND		ug/l	2.0	--

Project Name: TUFTS STREET
Project Number: 045163

Lab Number: L2354341
Report Date: 09/27/23

Method Blank Analysis Batch Quality Control

Analytical Method: 141,8260D
Analytical Date: 09/26/23 12:45
Analyst: MCM

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics - Westborough Lab for sample(s): 01 Batch: WG1832480-5					
p-Chlorotoluene	ND		ug/l	2.0	--
1,2-Dibromo-3-chloropropane	ND		ug/l	2.0	--
Hexachlorobutadiene	ND		ug/l	0.60	--
Isopropylbenzene	ND		ug/l	2.0	--
p-Isopropyltoluene	ND		ug/l	2.0	--
Naphthalene	ND		ug/l	2.0	--
n-Propylbenzene	ND		ug/l	2.0	--
1,2,3-Trichlorobenzene	ND		ug/l	2.0	--
1,2,4-Trichlorobenzene	ND		ug/l	2.0	--
1,3,5-Trimethylbenzene	ND		ug/l	2.0	--
1,2,4-Trimethylbenzene	ND		ug/l	2.0	--
Diethyl ether	ND		ug/l	2.0	--
Diisopropyl Ether	ND		ug/l	2.0	--
Ethyl-Tert-Butyl-Ether	ND		ug/l	2.0	--
Tertiary-Amyl Methyl Ether	ND		ug/l	2.0	--
1,4-Dioxane	ND		ug/l	250	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	100		70-130
Toluene-d8	102		70-130
4-Bromofluorobenzene	107		70-130
Dibromofluoromethane	106		70-130

Lab Control Sample Analysis Batch Quality Control

Project Name: TUFTS STREET

Project Number: 045163

Lab Number: L2354341

Report Date: 09/27/23

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics - Westborough Lab Associated sample(s): 01 Batch: WG1832480-3 WG1832480-4								
Methylene chloride	99		98		70-130	1		20
1,1-Dichloroethane	98		100		70-130	2		20
Chloroform	96		95		70-130	1		20
Carbon tetrachloride	93		95		70-130	2		20
1,2-Dichloropropane	99		92		70-130	7		20
Dibromochloromethane	94		92		70-130	2		20
1,1,2-Trichloroethane	97		98		70-130	1		20
Tetrachloroethene	95		99		70-130	4		20
Chlorobenzene	98		98		70-130	0		20
Trichlorofluoromethane	100		100		70-130	0		20
1,2-Dichloroethane	90		92		70-130	2		20
1,1,1-Trichloroethane	96		98		70-130	2		20
Bromodichloromethane	94		97		70-130	3		20
trans-1,3-Dichloropropene	94		94		70-130	0		20
cis-1,3-Dichloropropene	93		94		70-130	1		20
1,1-Dichloropropene	96		96		70-130	0		20
Bromoform	90		90		70-130	0		20
1,1,2,2-Tetrachloroethane	100		100		70-130	0		20
Benzene	93		94		70-130	1		20
Toluene	100		100		70-130	0		20
Ethylbenzene	98		100		70-130	2		20
Chloromethane	100		100		70-130	0		20
Bromomethane	69	Q	76		70-130	10		20

Lab Control Sample Analysis

Batch Quality Control

Project Name: TUFTS STREET

Project Number: 045163

Lab Number: L2354341

Report Date: 09/27/23

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics - Westborough Lab Associated sample(s): 01 Batch: WG1832480-3 WG1832480-4								
Vinyl chloride	98		100		70-130	2		20
Chloroethane	98		100		70-130	2		20
1,1-Dichloroethene	94		99		70-130	5		20
trans-1,2-Dichloroethene	96		98		70-130	2		20
Trichloroethene	86		89		70-130	3		20
1,2-Dichlorobenzene	100		99		70-130	1		20
1,3-Dichlorobenzene	100		100		70-130	0		20
1,4-Dichlorobenzene	98		97		70-130	1		20
Methyl tert butyl ether	84		82		70-130	2		20
p/m-Xylene	95		95		70-130	0		20
o-Xylene	95		95		70-130	0		20
cis-1,2-Dichloroethene	98		98		70-130	0		20
Dibromomethane	93		96		70-130	3		20
1,2,3-Trichloropropane	100		99		70-130	1		20
Styrene	95		95		70-130	0		20
Dichlorodifluoromethane	94		96		70-130	2		20
Acetone	94		88		70-130	7		20
Carbon disulfide	100		100		70-130	0		20
Methyl ethyl ketone	88		88		70-130	0		20
Methyl isobutyl ketone	84		88		70-130	5		20
2-Hexanone	92		89		70-130	3		20
Bromochloromethane	100		100		70-130	0		20
Tetrahydrofuran	90		85		70-130	6		20

Lab Control Sample Analysis **Batch Quality Control**

Project Name: TUFTS STREET

Project Number: 045163

Lab Number: L2354341

Report Date: 09/27/23

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics - Westborough Lab Associated sample(s): 01 Batch: WG1832480-3 WG1832480-4								
2,2-Dichloropropane	91		95		70-130	4		20
1,2-Dibromoethane	94		95		70-130	1		20
1,3-Dichloropropane	96		95		70-130	1		20
1,1,1,2-Tetrachloroethane	95		93		70-130	2		20
Bromobenzene	99		97		70-130	2		20
n-Butylbenzene	100		100		70-130	0		20
sec-Butylbenzene	100		100		70-130	0		20
tert-Butylbenzene	100		100		70-130	0		20
o-Chlorotoluene	100		100		70-130	0		20
p-Chlorotoluene	100		100		70-130	0		20
1,2-Dibromo-3-chloropropane	93		94		70-130	1		20
Hexachlorobutadiene	95		90		70-130	5		20
Isopropylbenzene	100		100		70-130	0		20
p-Isopropyltoluene	100		100		70-130	0		20
Naphthalene	93		91		70-130	2		20
n-Propylbenzene	100		100		70-130	0		20
1,2,3-Trichlorobenzene	96		93		70-130	3		20
1,2,4-Trichlorobenzene	93		90		70-130	3		20
1,3,5-Trimethylbenzene	100		100		70-130	0		20
1,2,4-Trimethylbenzene	100		100		70-130	0		20
Diethyl ether	90		88		70-130	2		20
Diisopropyl Ether	91		90		70-130	1		20
Ethyl-Tert-Butyl-Ether	82		83		70-130	1		20

Lab Control Sample Analysis**Batch Quality Control****Project Name:** TUFTS STREET**Project Number:** 045163**Lab Number:** L2354341**Report Date:** 09/27/23

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics - Westborough Lab Associated sample(s): 01 Batch: WG1832480-3 WG1832480-4								
Tertiary-Amyl Methyl Ether	82		84		70-130	2		20
1,4-Dioxane	78		82		70-130	5		20

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	94		94		70-130
Toluene-d8	106		105		70-130
4-Bromofluorobenzene	101		102		70-130
Dibromofluoromethane	98		97		70-130

Project Name: TUFTS STREET**Lab Number:** L2354341**Project Number:** 045163**Report Date:** 09/27/23**Sample Receipt and Container Information**

Were project specific reporting limits specified?

YES

Cooler Information**Cooler** **Custody Seal**

A Absent

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2354341-01A	Vial HCl preserved	A	NA		3.5	Y	Absent		MCP-8260-21(14)
L2354341-01B	Vial HCl preserved	A	NA		3.5	Y	Absent		MCP-8260-21(14)
L2354341-01C	Vial HCl preserved	A	NA		3.5	Y	Absent		MCP-8260-21(14)

Project Name: TUFTS STREET
Project Number: 045163

Lab Number: L2354341
Report Date: 09/27/23

GLOSSARY

Acronyms

DL	- Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the limit of quantitation (LOQ). The DL includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
EDL	- Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).
EMPC	- Estimated Maximum Possible Concentration: The concentration that results from the signal present at the retention time of an analyte when the ions meet all of the identification criteria except the ion abundance ratio criteria. An EMPC is a worst-case estimate of the concentration.
EPA	- Environmental Protection Agency.
LCS	- Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
LCSD	- Laboratory Control Sample Duplicate: Refer to LCS.
LFB	- Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
LOD	- Limit of Detection: This value represents the level to which a target analyte can reliably be detected for a specific analyte in a specific matrix by a specific method. The LOD includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
LOQ	- Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
	Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
MDL	- Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
MS	- Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available. For Method 332.0, the spike recovery is calculated using the native concentration, including estimated values.
MSD	- Matrix Spike Sample Duplicate: Refer to MS.
NA	- Not Applicable.
NC	- Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.
NDPA/DPA	- N-Nitrosodiphenylamine/Diphenylamine.
NI	- Not Ignitable.
NP	- Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.
NR	- No Results: Term is utilized when 'No Target Compounds Requested' is reported for the analysis of Volatile or Semivolatile Organic TIC only requests.
RL	- Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
RPD	- Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.
SRM	- Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.
STLP	- Semi-dynamic Tank Leaching Procedure per EPA Method 1315.
TEF	- Toxic Equivalency Factors: The values assigned to each dioxin and furan to evaluate their toxicity relative to 2,3,7,8-TCDD.
TEQ	- Toxic Equivalent: The measure of a sample's toxicity derived by multiplying each dioxin and furan by its corresponding TEF and then summing the resulting values.
TIC	- Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.

Report Format: Data Usability Report



Project Name: TUFTS STREET
Project Number: 045163

Lab Number: L2354341
Report Date: 09/27/23

Footnotes

- 1 - The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

Terms

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

Chlordane: The target compound Chlordane (CAS No. 57-74-9) is reported for GC ECD analyses. Per EPA, this compound "refers to a mixture of chlordane isomers, other chlorinated hydrocarbons and numerous other components." (Reference: USEPA Toxicological Review of Chlordane, In Support of Summary Information on the Integrated Risk Information System (IRIS), December 1997.)

Difference: With respect to Total Oxidizable Precursor (TOP) Assay analysis, the difference is defined as the Post-Treatment value minus the Pre-Treatment value.

Final pH: As it pertains to Sample Receipt & Container Information section of the report, Final pH reflects pH of container determined after adjustment at the laboratory, if applicable. If no adjustment required, value reflects Initial pH.

Frozen Date/Time: With respect to Volatile Organics in soil, Frozen Date/Time reflects the date/time at which associated Reagent Water-preserved vials were initially frozen. Note: If frozen date/time is beyond 48 hours from sample collection, value will be reflected in 'bold'.

Gasoline Range Organics (GRO): Gasoline Range Organics (GRO) results include all chromatographic peaks eluting from Methyl tert butyl ether through Naphthalene, with the exception of GRO analysis in support of State of Ohio programs, which includes all chromatographic peaks eluting from Hexane through Dodecane.

Initial pH: As it pertains to Sample Receipt & Container Information section of the report, Initial pH reflects pH of container determined upon receipt, if applicable.

PAH Total: With respect to Alkylated PAH analyses, the 'PAHs, Total' result is defined as the summation of results for all or a subset of the following compounds: Naphthalene, C1-C4 Naphthalenes, 2-Methylnaphthalene, 1-Methylnaphthalene, Biphenyl, Acenaphthylene, Acenaphthene, Fluorene, C1-C3 Fluorenes, Phenanthrene, C1-C4 Phenanthrenes/Anthracenes, Anthracene, Fluoranthene, Pyrene, C1-C4 Fluoranthenes/Pyrenes, Benz(a)anthracene, Chrysene, C1-C4 Chrysenes, Benzo(b)fluoranthene, Benzo(j)+(k)fluoranthene, Benzo(e)pyrene, Benzo(a)pyrene, Perylene, Indeno(1,2,3-cd)pyrene, Dibenz(ah)+(ac)anthracene, Benzo(g,h,i)perylene. If a 'Total' result is requested, the results of its individual components will also be reported.

PFAS Total: With respect to PFAS analyses, the 'PFAS, Total (5)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA and PFOS. In addition, the 'PFAS, Total (6)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA, PFDA and PFOS. For MassDEP DW compliance analysis only, the 'PFAS, Total (6)' result is defined as the summation of results at or above the RL. Note: If a 'Total' result is requested, the results of its individual components will also be reported.

Total: With respect to Organic analyses, a 'Total' result is defined as the summation of results for individual isomers or Aroclors. If a 'Total' result is requested, the results of its individual components will also be reported. This is applicable to 'Total' results for methods 8260, 8081 and 8082.

Data Qualifiers

- A** - Spectra identified as "Aldol Condensates" are byproducts of the extraction/concentration procedures when acetone is introduced in the process.
- B** - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).
- C** - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.
- D** - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.
- E** - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.
- F** - The ratio of quantifier ion response to qualifier ion response falls outside of the laboratory criteria. Results are considered to be an estimated maximum concentration.
- G** - The concentration may be biased high due to matrix interferences (i.e. co-elution) with non-target compound(s). The result should be considered estimated.
- H** - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.
- I** - The lower value for the two columns has been reported due to obvious interference.
- J** - Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).
- M** - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.

Report Format: Data Usability Report



Project Name: TUFTS STREET
Project Number: 045163

Lab Number: L2354341
Report Date: 09/27/23

Data Qualifiers

- ND** - Not detected at the reporting limit (RL) for the sample.
- NJ** - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.
- P** - The RPD between the results for the two columns exceeds the method-specified criteria.
- Q** - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)
- R** - Analytical results are from sample re-analysis.
- RE** - Analytical results are from sample re-extraction.
- S** - Analytical results are from modified screening analysis.
- V** - The surrogate associated with this target analyte has a recovery outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)
- Z** - The batch matrix spike and/or duplicate associated with this target analyte has a recovery/RPD outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Project Name: TUFTS STREET
Project Number: 045163

Lab Number: L2354341
Report Date: 09/27/23

REFERENCES

- 141 EPA Test Methods (SW-846) with QC Requirements & Performance Standards for the Analysis of EPA SW-846 Methods under the Massachusetts Contingency Plan, WSC-CAM-IIA and IIB, November 2021.

LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.



Alpha Analytical, Inc.Facility: **Company-wide**Department: **Quality Assurance**Title: **Certificate/Approval Program Summary**ID No.: **17873**

Revision 20

Published Date: 6/16/2023 4:52:28 PM

Page 1 of 1

Certification Information

The following analytes are not included in our Primary NELAP Scope of Accreditation:

Westborough Facility**EPA 624.1:** m/p-xylene, o-xylene, Naphthalene**EPA 625.1:** alpha-Terpineol**EPA 8260D:** NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.**EPA 8270E:** NPW: Dimethylnaphthalene, 1,4-Diphenylhydrazine, alpha-Terpineol; SCM: Dimethylnaphthalene, 1,4-Diphenylhydrazine.**SM4500:** NPW: Amenable Cyanide; SCM: Total Phosphorus, TKN, NO₂, NO₃.**Mansfield Facility****SM 2540D:** TSS.**EPA TO-15:** Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene,

3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.

Biological Tissue Matrix: EPA 3050B

The following analytes are included in our Massachusetts DEP Scope of Accreditation

Westborough Facility:**Drinking Water****EPA 300.0:** Chloride, Nitrate-N, Fluoride, Sulfate; **EPA 353.2:** Nitrate-N, Nitrite-N; **SM4500NO3-F:** Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE,****EPA 180.1, SM2130B, SM4500CI-D, SM2320B, SM2540C, SM4500H-B, SM4500NO2-B****EPA 524.2:** THMs and VOCs; **EPA 504.1:** EDB, DBCP.**Microbiology:** **SM9215B; SM9223-P/A, SM9223B-Colilert-QT, SM9222D.****Non-Potable Water****SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH:** Ammonia-N and Kjeldahl-N, **EPA 350.1:**Ammonia-N, **LACHAT 10-107-06-1-B:** Ammonia-N, **EPA 351.1, SM4500NO3-F, EPA 353.2:** Nitrate-N, **SM4500P-E, SM4500P-B, E, SM4500SO4-E,****SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D, EPA 300:** Chloride, Sulfate, Nitrate.**EPA 624.1:** Volatile Halocarbons & Aromatics,**EPA 608.3:** Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II,

Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs

EPA 625.1: SVOC (Acid/Base/Neutral Extractables).**Microbiology:** **SM9223B-Colilert-QT; Enterolert-QT, SM9221E, EPA 1600, EPA 1603, SM9222D.****Mansfield Facility:****Drinking Water****EPA 200.7:** Al, Ba, Cd, Cr, Cu, Fe, Mn, Ni, Na, Ag, Ca, Zn. **EPA 200.8:** Al, Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn. **EPA 245.1** Hg.**EPA 522, EPA 537.1.****Non-Potable Water****EPA 200.7:** Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.**EPA 200.8:** Al, Sb, As, Be, Cd, Cr, Cu, Fe, Pb, Mn, Ni, K, Se, Ag, Na, TL, Zn.**EPA 245.1** Hg.**SM2340B**

For a complete listing of analytes and methods, please contact your Alpha Project Manager.

Method Blank Summary Form 4 Volatiles

Client : GEI Consultants
Project Name : TUFTS STREET
Lab Sample ID : WG1832480-5
Instrument ID : JACK2
Matrix : WATER

Lab Number : L2354341
Project Number : 045163
Lab File ID : J230926D08
Analysis Date : 09/26/23 12:45

Client Sample No.	Lab Sample ID	Analysis Date
WG1832480-3LCS	WG1832480-3	09/26/23 10:38
WG1832480-4LCSD	WG1832480-4	09/26/23 11:20
045163-MW108	L2354341-01	09/26/23 20:29

Calibration Verification Summary

Form 7

Volatiles

Client : GEI Consultants
 Project Name : TUFTS STREET
 Instrument ID : JACK2
 Lab File ID : J230926D02
 Sample No : WG1832480-2
 Channel :

Lab Number : L2354341
 Project Number : 045163
 Calibration Date : 09/26/23 10:38
 Init. Calib. Date(s) : 09/13/23 09/14/23
 Init. Calib. Times : 08:49 06:31

Compound	Ave. RRF	RRF	Min RRF	%D	Max %D	Area%	Dev(min)
Fluorobenzene	1	1	-	0	20	192	0
Dichlorodifluoromethane	0.538	0.505	-	6.1	20	164	0
Chloromethane	0.4	0.41	-	-2.5	20	181	0
Vinyl chloride	0.612	0.597	-	2.5	20	166	0
Bromomethane	10	6.91	-	30.9*	20	156	0
Chloroethane	0.423	0.413	-	2.4	20	168	0
Trichlorofluoromethane	0.68	0.681	-	-0.1	20	181	0
Ethyl ether	0.19	0.17	-	10.5	20	174	0
1,1-Dichloroethene	0.375	0.352	-	6.1	20	165	0
Carbon disulfide	1.064	1.059	-	0.5	20	175	0
Freon-113	0.424	0.415	-	2.1	20	172	0
Acrolein	0.048	0.044	-	8.3	20	188	0
Methylene chloride	0.389	0.386	-	0.8	20	184	0
Acetone	0.102	0.095	-	6.9	20	180	0
trans-1,2-Dichloroethene	0.416	0.401	-	3.6	20	175	0
Methyl acetate	0.235	0.193	-	17.9	20	150	0
Methyl tert-butyl ether	1.05	0.88	-	16.2	20	162	0
tert-Butyl alcohol	0.033	0.023	-	30.3*	20	142	0
Diisopropyl ether	1.081	0.985	-	8.9	20	174	0
1,1-Dichloroethane	0.725	0.712	-	1.8	20	171	0
Halothane	0.331	0.326	-	1.5	20	177	0
Acrylonitrile	0.103	0.092	-	10.7	20	166	0
Ethyl tert-butyl ether	1.069	0.878	-	17.9	20	162	0
Vinyl acetate	0.629	0.554	-	11.9	20	189	0
cis-1,2-Dichloroethene	0.451	0.442	-	2	20	178	0
2,2-Dichloropropane	0.654	0.596	-	8.9	20	167	0
Bromochloromethane	0.208	0.208	-	0	20	181	0
Cyclohexane	0.652	0.643	-	1.4	20	178	0
Chloroform	0.752	0.719	-	4.4	20	178	0
Ethyl acetate	0.3	0.243	-	19	20	154	0
Carbon tetrachloride	0.61	0.567	-	7	20	171	0
Tetrahydrofuran	0.112	0.101	-	9.8	20	160	0
Dibromofluoromethane	0.316	0.309	-	2.2	20	183	0
1,1,1-Trichloroethane	0.668	0.641	-	4	20	172	0
2-Butanone	0.137	0.121	-	11.7	20	175	0
1,1-Dichloropropene	0.545	0.522	-	4.2	20	177	0
Benzene	1.598	1.489	-	6.8	20	178	0
tert-Amyl methyl ether	0.993	0.814	-	18	20	160	0
1,2-Dichloroethane-d4	0.361	0.338	-	6.4	20	181	0
1,2-Dichloroethane	0.539	0.484	-	10.2	20	164	0
Methyl cyclohexane	0.747	0.672	-	10	20	180	0
Trichloroethene	0.472	0.409	-	13.3	20	177	0
Dibromomethane	0.249	0.232	-	6.8	20	175	0

* Value outside of QC limits.



Calibration Verification Summary

Form 7

Volatiles

Client : GEI Consultants
 Project Name : TUFTS STREET
 Instrument ID : JACK2
 Lab File ID : J230926D02
 Sample No : WG1832480-2
 Channel :

Lab Number : L2354341
 Project Number : 045163
 Calibration Date : 09/26/23 10:38
 Init. Calib. Date(s) : 09/13/23 09/14/23
 Init. Calib. Times : 08:49 06:31

Compound	Ave. RRF	RRF	Min RRF	%D	Max %D	Area%	Dev(min)
1,2-Dichloropropane	0.365	0.36	-	1.4	20	186	0
2-Chloroethyl vinyl ether	0.203	0.171	-	15.8	20	157	0
Bromodichloromethane	0.524	0.494	-	5.7	20	171	0
1,4-Dioxane	0.00363	0.00281*	-	22.6*	20	137	0
cis-1,3-Dichloropropene	0.572	0.531	-	7.2	20	176	0
Chlorobenzene-d5	1	1	-	0	20	180	0
Toluene-d8	1.141	1.211	-	-6.1	20	190	0
Toluene	1.033	1.032	-	0.1	20	174	0
4-Methyl-2-pentanone	0.116	0.098	-	15.5	20	149	0
Tetrachloroethene	0.46	0.438	-	4.8	20	168	0
trans-1,3-Dichloropropene	0.536	0.504	-	6	20	175	0
Ethyl methacrylate	0.417	0.394	-	5.5	20	159	0
1,1,2-Trichloroethane	0.273	0.266	-	2.6	20	179	0
Chlorodibromomethane	0.413	0.387	-	6.3	20	176	0
1,3-Dichloropropane	0.542	0.519	-	4.2	20	175	0
1,2-Dibromoethane	0.345	0.326	-	5.5	20	176	0
2-Hexanone	0.221	0.204	-	7.7	20	154	0
Chlorobenzene	1.187	1.165	-	1.9	20	174	0
Ethylbenzene	2.076	2.025	-	2.5	20	171	0
1,1,1,2-Tetrachloroethane	0.414	0.393	-	5.1	20	174	0
p/m Xylene	0.905	0.858	-	5.2	20	175	0
o Xylene	0.864	0.818	-	5.3	20	176	0
Styrene	1.457	1.367	-	6.2	20	173	0
1,4-Dichlorobenzene-d4	1	1	-	0	20	180	0
Bromoform	10	9.057	-	9.4	20	164	0
Isopropylbenzene	3.579	3.58	-	-0	20	172	0
4-Bromofluorobenzene	0.738	0.746	-	-1.1	20	177	0
Bromobenzene	0.823	0.816	-	0.9	20	174	0
n-Propylbenzene	4.265	4.338	-	-1.7	20	173	0
1,4-Dichlorobutane	0.847	0.856	-	-1.1	20	172	0
1,1,2,2-Tetrachloroethane	0.681	0.721	-	-5.9	20	184	0
4-Ethyltoluene	3.604	3.615	-	-0.3	20	171	0
2-Chlorotoluene	2.802	2.817	-	-0.5	20	170	0
1,3,5-Trimethylbenzene	3.072	3.127	-	-1.8	20	173	0
1,2,3-Trichloropropane	0.558	0.563	-	-0.9	20	174	0
trans-1,4-Dichloro-2-buten	0.206	0.188	-	8.7	20	157	0
4-Chlorotoluene	2.482	2.579	-	-3.9	20	178	0
tert-Butylbenzene	2.65	2.683	-	-1.2	20	173	0
1,2,4-Trimethylbenzene	2.996	3.05	-	-1.8	20	174	0
sec-Butylbenzene	3.982	4.14	-	-4	20	175	0
p-Isopropyltoluene	3.475	3.537	-	-1.8	20	174	0
1,3-Dichlorobenzene	1.723	1.759	-	-2.1	20	179	0
1,4-Dichlorobenzene	1.75	1.724	-	1.5	20	175	0

* Value outside of QC limits.



Calibration Verification Summary

Form 7

Volatiles

Client : GEI Consultants
 Project Name : TUFTS STREET
 Instrument ID : JACK2
 Lab File ID : J230926D02
 Sample No : WG1832480-2
 Channel :

Lab Number : L2354341
 Project Number : 045163
 Calibration Date : 09/26/23 10:38
 Init. Calib. Date(s) : 09/13/23 09/14/23
 Init. Calib. Times : 08:49 06:31

Compound	Ave. RRF	RRF	Min RRF	%D	Max %D	Area%	Dev(min)
p-Diethylbenzene	2.224	2.105	-	5.4	20	172	0
n-Butylbenzene	2.997	3.125	-	-4.3	20	174	0
1,2-Dichlorobenzene	1.598	1.615	-	-1.1	20	179	0
1,2,4,5-Tetramethylbenzene	2.989	2.807	-	6.1	20	167	0
1,2-Dibromo-3-chloropropan	0.126	0.117	-	7.1	20	165	0
1,3,5-Trichlorobenzene	1.158	1.143	-	1.3	20	167	0
Hexachlorobutadiene	0.453	0.43	-	5.1	20	167	0
1,2,4-Trichlorobenzene	1.009	0.942	-	6.6	20	159	0
Naphthalene	2.636	2.464	-	6.5	20	162	0
1,2,3-Trichlorobenzene	0.917	0.882	-	3.8	20	167	0

* Value outside of QC limits.

